

# THE JOURNAL OF MEDICAL EDUCATION

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The *Journal of Medical Education* serves as an important international medium for the exchange of ideas in medical education, as well as a means of communicating the policies, programs, and problems of the Association. The Editorial Board welcomes the submission of manuscripts concerned with the broad field of medical education; this includes preparation for medical education; the medical school experience; intern and resident education; graduate and postgraduate medical education. The Editorial Board recognizes that medical education includes the activities of faculty, students, administrators, and those of the practicing profession who also teach and learn. Thus, it invites communications from any of these sources.

**Manuscripts** should be submitted in duplicate. All manuscripts are reviewed by the Editorial Board before acceptance for publication. All copy, including footnotes, tables, and legends, should be typed double-spaced. Each diagram or graph or photograph should have a brief legend. Each table should be typed on a separate sheet of paper. References should refer to published material only, must be submitted in alphabetical order, and should include, in order: author, title, journal abbreviation (*Quarterly Cumulative Index Medicus* form), volume number, page, and year; book references should also include editors, edition, publisher, and place of publication.

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**Medical Education Forum** includes editorials, letters, comments, criticisms, and excerpts from important addresses.

**News from the Medical Schools:** Material for this section should be transmitted to the News Editor, Mr. Tom Coleman, 2530 Ridge Avenue, Evanston, Illinois. Announcements of major faculty and administrative appointments, news of distinguished visitors and significant educational developments will be included. It is not possible to publish notices on grants-in-aid for scientific research.

**Items of Current Interest:** Audio-visual news and notices from national and federal agencies appear in this section.

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Address all correspondence regarding manuscripts, editorials, and letters to the Editor to the Editorial Office, University Hospitals, University of Wisconsin, Madison 6, Wisconsin.

Address all correspondence concerning subscriptions, reprints, changes of address, and back numbers to the University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois. All changes of address should provide both the old and the new address.

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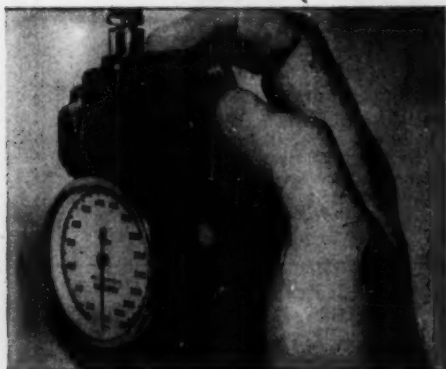


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### References:

1. Boland, E. W.: *California Med.* 8:417 (June) 1958.
2. Bunim, J. J., et al.: *Arthr. & Rheum.* 1:313 (Aug.) 1958.
3. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., June 21, 1958, San Francisco, Calif.
4. Bunim, J. J., et al.: Paper read before the Am. Rheum. Assoc., June 21, 1958, San Francisco, Calif.



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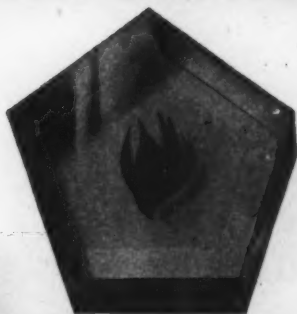
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# Calendar of Meetings

## DECEMBER

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES, Hotel Roosevelt, New York, Dec. 12-13. Dr. Rollo J. Masselink, 700 W. 168th St., New York 32, Secretary.

## JANUARY 1959

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, Palmer House, Chicago, Jan. 24-29. Dr. Clinton L. Compere, 720 N. Michigan Ave., Chicago 11, Secretary.

INTERNATIONAL COLLEGE OF SURGEONS, SOUTHEASTERN REGIONAL MEETING, Miami Beach, Fla., Jan. 4-7. Dr. Harold O. Hallstrand, 7210 Red Road, South Miami, Fla., Chairman.

INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, Gunther Hotel, San Antonio, Tex., Jan. 26-28. Mr. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio, Tex., Executive Secretary.

ROCKY MOUNTAIN TRAUMATIC SURGICAL ASSOCIATION, Aspen, Colo., Jan. 28-31. Dr. Charles B. Bartell, 1600 Orange Ave., Long Beach 13, Calif., Secretary.

WESTERN SOCIETY FOR CLINICAL RESEARCH, Carmel-by-the-Sea, Calif., Jan. 29-31. Dr. William N. Valentine, University of California Medical Center, Los Angeles 24, Secretary.

## FEBRUARY

AMERICAN ACADEMY OF ALLERGY, Morrison Hotel, Chicago, Feb. 9-11. Dr. Bram Rose, Royal Victoria Hosp., Montreal, Quebec, Secretary.

AMERICAN ACADEMY OF FORENSIC SCIENCES, Drake Hotel, Chicago, Feb. 26-28. Dr. Walter J. R. Camp, 1833 W. Polk St., Chicago 12, Secretary.

AMERICAN ACADEMY OF OCCUPATIONAL MEDICINE, Boston, Feb. 11-13. Dr. L. Blaney, 1608 Walnut St., Philadelphia 3, Secretary.

AMERICAN COLLEGE OF RADIOLOGY, Drake Hotel, Chicago, Feb. 6-7. Mr. William C. Stronach, 20 N. Wacker Dr., Chicago 6, Executive Director.

CALIFORNIA MEDICAL ASSOCIATION, Sheraton-Palace Hotel, San Francisco, Feb. 22-25. Mr. John Hutton, 450 Sutter St., San Francisco 3, Executive Secretary.

CONGRESS ON INDUSTRIAL HEALTH, Netherland Hilton Hotel, Cincinnati, Feb. 16-18. Dr. B. Dixon Holland, 535 N. Dearborn St., Chicago 10, Secretary.

## MARCH

AMERICAN COLLEGE OF ALLERGISTS, Fairmont Hotel, San Francisco, Mar. 15-20. Dr. M. Coleman Harris, 450 Sutter St., San Francisco, Secretary.

AMERICAN LARYNGOLOGICAL ASSOCIATION, The Homestead, Hot Springs, Va., Mar. 8-9. Dr. James H. Maxwell, University Hospital, Ann Arbor, Mich., Secretary.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL & OTOLOGICAL SOCIETY, The Homestead, Hot Springs, Va., Mar. 10-12. Dr. C. Stewart Nash, 708 Medical Arts Bldg., Rochester 7, N.Y., Secretary.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, Sheraton-Palace Hotel, San Francisco, Mar. 30-Apr. 1. Dr. Marion F. Langer, 1790 Broadway, New York 19, Executive Secretary.

AMERICAN OTOLOGICAL SOCIETY, The Homestead, Hot Springs, Va., Mar. 13-14. Dr. Lawrence R. Boies, University Hospital, Minneapolis 14, Secretary.

MICHIGAN ACADEMY OF GENERAL PRACTICE, POST-GRADUATE CLINIC, Sheraton-Cadillac Hotel, Detroit, Mar. 5. Dr. F. P. Rhodes, 970 Maccabees Bldg., Detroit 2, Convention Manager.

NATIONAL HEALTH COUNCIL, Palmer House, Chicago, Mar. 17-19. Mr. Phillip E. Ryan, 1790 Broadway, New York 19, Executive Director.

NATIONAL MULTIPLE SCLEROSIS SOCIETY, New York, Mar. 9. Mr. Donald Vail, 257 4th Ave., New York 10, Secretary.

SOUTHEASTERN SURGICAL CONGRESS, Desauville Hotel, Miami Beach, Fla., Mar. 9-12. Dr. Benjamin T. Bessley, 45 Edgewood Ave., S. E., Atlanta 3, Ga., Secretary.

SOUTHWESTERN SURGICAL CONGRESS, New Brown Palace Hotel, Denver, Mar. 30-Apr. 1. Dr. C. M. O'Leary, 1213 Medical Arts Bldg., Oklahoma City, Okla., Secretary.

## APRIL

AMERICAN ACADEMY OF GENERAL PRACTICE, San Francisco, Apr. 6-9. Mr. Mac F. Cahal, Volker Blvd., at Brookside, Kansas City 12, Mo., Executive Secretary.

AMERICAN ACADEMY OF NEUROLOGY, Statler Hotel, Los Angeles, Apr. 13-18. Dr. Joseph M. Foley, Boston City Hosp., Boston, Secretary.

AMERICAN ASSOCIATION OF ANATOMISTS, Seattle, Apr. 1-3. Dr. B. Flexner, Univ. of Pa., Med. School, Philadelphia 4, Secretary.

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS, Somerset Hotel, Boston, Apr. 23-25. Dr. Russell L. Holman, 1542 Tulane Ave., New Orleans 12, Secretary.

AMERICAN COLLEGE OF OBSTETRICIANS & GYNECOLOGISTS, Traymore Hotel, Atlantic City, N.J., Apr. 5-9. Dr. John C. Ulery, 15 S. Clark St., Chicago 3, Secretary.

AMERICAN COLLEGE OF PHYSICIANS, Conrad Hilton Hotel, Chicago, Apr. 20-24. Mr. E. R. Loveland, 4200 Park St., Philadelphia 4, Executive Secretary.

AMERICAN SURGICAL ASSOCIATION, Fairmont Hotel, San Francisco, Apr. 15-17. Dr. W. A. Altmeier, Cincinnati Gen. Hospital, Cincinnati 29, Secretary.

SOCIETY OF NEUROLOGICAL SURGEONS, Waldorf-Astoria Hotel, New York, Apr. 27-28. Dr. Bronson S. Ray, 525 E. 68th St., New York 21, Secretary.

## INTERNATIONAL AND FOREIGN

### NOVEMBER

BAHAMAS MEDICAL CONFERENCE, British Colonial Hotel, Nassau, Bahamas, Nov. 28-Dec. 13. For information write: Dr. B. L. Frank, 23 E. 79th St., New York 21, New York, U.S.A.

PAKISTAN MEDICAL CONFERENCE, Dacca, East Pakistan, Nov. 23-27. Dr. K. S. Alam, 35, Nazimuddin Road, Dacca, East Pakistan, Conference Secretary.

### DECEMBER

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### FEBRUARY 1959

CENTRAL SURGICAL ASSOCIATION, Montreal, Can., Feb. 19-21. Dr. A. D. McLachlin, Victoria Hosp., London, Ontario, Secretary.

SOCIETY OF UNIVERSITY SURGEONS, Denver, Colo., Feb. 12-14. Dr. James D. Hardy, Univ. Medical Center, Jackson, Miss., Secretary.

### APRIL

CONGRESS OF INTERNATIONAL ANESTHESIA SOCIETY, Miami Beach, Fla., U.S.A., Apr. 20-23. Dr. A. William Friend, East 107 & Park Lane, Cleveland 6, Ohio, U.S.A., Executive Secretary.



## Boyd—Pathology for the Physician

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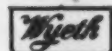
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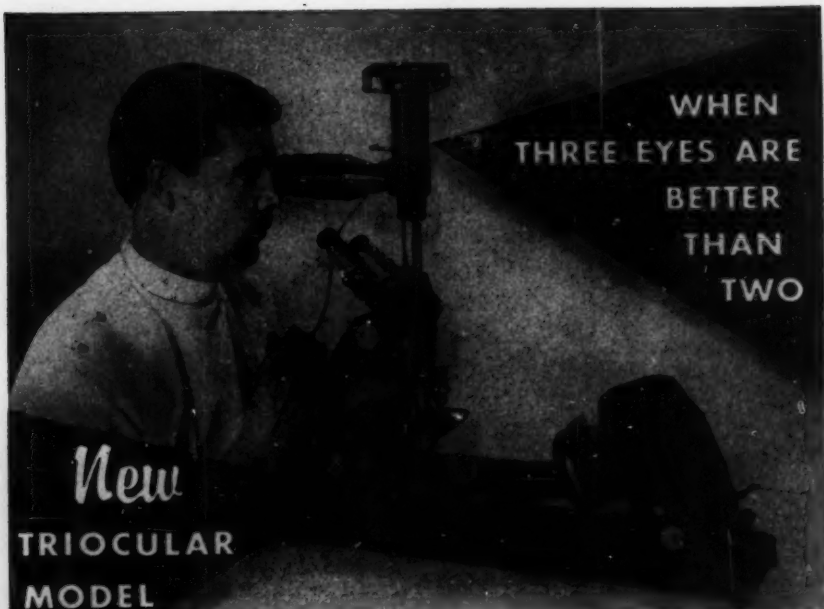


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## Nathan Smith\*

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Sometime in the year 1782 when Nathan Smith was 20 and was teaching school in Chester, Vermont, there occurred in that town a dramatic episode which was to greatly modify his career as a teacher. The event was the amputation of a leg, and the record

usually carried out with considerable ceremony. Often prayer was offered, before those assembled, by the local minister; and dramatic the event undoubtedly was. It so impressed Nathan Smith that shortly afterward he sought to become an apprentice in medicine under Josiah Goodhue.

Dr. Goodhue (3) was more than a local celebrity, for his practice extended into the adjacent states of New Hampshire and Massachusetts. He was the son of Rev. Josiah Goodhue, a Harvard A.B., and had attended that college himself until its doors were closed by the exigencies of the Revolution. He then became a pupil of Dr. Thomas Kittredge of Andover, Massachusetts, setting up for himself after 2 years, in Putney, Vermont. He was distinguished later by becoming president of the Berkshire Medical Institution at Pittsfield. As a surgeon he is said to have been the first in New England to have amputated at the shoulder joint and during his career to have trepanned nearly 40 times and to have performed an equal number of operations for strangulated hernia. As a preceptor in medicine he was without doubt in considerable demand by young men who desired to enter the medical profession.

Before accepting Nathan Smith as a pupil Dr. Goodhue advised him to seek further preparation for an apprenticeship by engaging in classical studies sufficient at least to qualify for Harvard College. Taking this advice Nathan Smith spent the next year with Rev. Whiting of Rockingham, a short distance down the valley. At the end of this time he became a private medical student of Dr. Goodhue, and in the years



*Courtesy of Yale University Art Gallery*

PORTRAIT OF NATHAN SMITH

states that, when the surgeon, Dr. Josiah Goodhue of Putney, asked for volunteers, the young schoolmaster stepped forward and became an assistant at the operation. Operations of this magnitude, although relatively rare in New England villages, were

\* This is the fourth in the current series of biographies of eminent medical educators.



that followed their mutual respect developed into a strong and loyal friendship. It is quite likely that it was Nathan Smith who was instrumental in 1800 in having the honorary degree of Doctor of Medicine conferred on Josiah Goodhue by the newly established Dartmouth Medical School.

Nathan Smith was a good prospect for a professional career, because he had already won spurs other than those of the pedagogue. At the age of 18, as a member of the Vermont Militia active in the troublesome times of a frontier community, he had been promoted from the ranks to a captaincy in his regiment. As a medical student he continued to show traits of leadership which would carry him forward in his profession. Dr. Goodhue has recorded,

While Smith was with me the country was new, the roads were bad and physicians scarce, therefore it often became necessary to send my pupils to visit the sick, sometimes a considerable distance; they sometimes objected on account of the road, or inclemency of the weather, but it was not so with him; it was enough to say he might go and he was gone. Neither the darkness of the night, the mud to his horse's knees, or the violence of the storm were any impediments to him. He was often poorly clad for a Vermont winter, having had a suit of clothes stolen from a tailor's shop after they were finished. If it should be asked what laid the Foundation of Doctor Smith's eminence the answer is industry. If it should be asked what brought him up to the pinnacle of his profession, the answer is the most unrelenting industry. The most sordid miser was never more tenacious of his dollars than he was of his time [6].

For 3 years Nathan Smith assisted the able Dr. Goodhue, living in his house, using his library, and associating in actual practice. At the end of this time he set up for himself in Cornish, New Hampshire, a dozen miles from Hanover, where President John Wheelock, son of the founder, was struggling with the vision of a university for Dartmouth College.

At Cornish, Smith's practice flourished from the start, being aided by a welcome from the principal families, the Spaldings and the Chases, who had established the

town some 30 years before. Among the former at that time was young Lyman Spalding, who became his ardent admirer and later a pupil and colleague who came to distinction of his own. Nathan Smith's intimacy with the Chase family was to ripen into something more than friendship.

However, professional and social success in Cornish did not satisfy the young doctor trained by a master whose own range was so much wider than that of a village doctor. It was not long before Smith made up his mind to seek further preparation in medicine, and at the end of 2 years he sold his horse and took himself off to the medical school at Harvard College. It was not too uncommon for physicians of that day, after finishing an apprenticeship, to attend a course of lectures given at one of the three medical schools then existing in the United States. In his case his inner promptings without doubt were influenced to a good extent by his experience with the skillful and accomplished Goodhue.

However, if we are to speculate why Nathan Smith should leave a successful practice to do what did at this time and later on, we have to consider his own endowments of personality and temperament, which stemmed from a pioneer stock which came to a new country chiefly for the reason that here they could more easily do things for their own betterment.

Through his father Nathan Smith's first American ancestor was Henry Smith, who with his wife Judith, three sons, two daughters, three men-servants and two maid-servants, came from Hargham Hall, Norfolk County, England, to Hingham, Massachusetts, in 1638. He was a college graduate and within 3 years of landing had become a representative in the General Court of the Colony. His son Henry, Jr., called Ensign Henry, was also a man of culture, an engineer and a surveyor. Ensign Henry's son known as Deacon Henry was the father of John Smith, who married Elizabeth (Ide) Hills, and these were the parents of Nathan Smith, born September 30, 1762, at Rehoboth, Massachusetts, located in that part



of the state which makes the shoulder of the arm of Cape Cod. It was here that the family of the first Henry Smith had moved not long after coming to Hingham. Just when Nathan and his parents went to Chester, Vermont, is not known, but John is listed among the pioneer farmers of that district, and Nathan's boyhood was spent there (8).

At the time of Nathan Smith's admission to the Institute of Medicine at Harvard College, the medical faculty, although limited to three members, was one of distinction. John Warren, brother of General Joseph Warren, also a physician, lectured on anatomy and surgery. He was then 37 and already known as a skillful surgeon and able teacher. Aaron Dexter taught chemistry and materia medica, and Benjamin Waterhouse, educated at Edinburgh and Leyden and later of vaccination fame, lectured on the theory and practice of medicine. Smith also attended lectures on natural philosophy given by Professor Samuel Webber of the College.

At the commencement in 1790 Nathan Smith took his degree of Bachelor of Medicine, the only one in a class of four, and became thereupon the seventh graduate of that medical school. On the occasion he read an "Inaugural Dissertation on the Circulation of the Blood," which became his first published work.

After receiving his diploma Smith returned to his friends and professional work at Cornish. Before very long his friendship with the Chase family was cemented by his marriage on January 16, 1791, to Elizabeth, daughter of General Jonathan Chase and his first wife Thankful Sherman Chase. Two years later this happiness came to an end with the death of Elizabeth. Subsequently he married Sarah Chase, a half-sister and a daughter of the General and his second wife, Sarah Hall Chase. By union with the Chase family Nathan Smith became connected with a large circle of prominent New England families. The Chases themselves had built substantial houses in Cornish, extended their land holdings, and

were regarded as being in somewhat more than comfortable circumstances.

On June 7, 1795, the first son of Nathan and Sarah Smith was born, David Solon Chase Hall Smith, to be known as Solon, this name being taken from the poet Ossian, whose works were then having popularity in New England (the rest were family names). Again, however, the domestic felicity of the Nathan Smiths was shortly to be upset. New fires of ambition had broken out in Nathan Smith and became manifest through his plan to establish a Professorship of Theory and Practice of Medicine at Dartmouth. This project was fully approved by the president and trustees at an annual meeting in August, 1796, but postponed for final action until the next year. This was discouraging news, but Nathan Smith decided to use this interim to prepare himself further for a teaching career in medicine by studying abroad. This meant not only separation from his young family and the borrowing of funds, but the peril of crossing the Atlantic in midwinter in a small sailing ship. Again the horse was sold and the proceeds used to augment the funds necessary for the trip. Passage was engaged to Glasgow, this route being selected because it cost less than half the price of that to London, which was \$170.

A farewell letter from Boston dated December 17, 1796, has this postscript. "We expect a fair wind in the morning and a pleasant voyage. There are four passengers on board, all very agreeable. The vessel is as good and safe as ever sailed from Boston, a fine Captain and crew, all very obliging and civil. I lack for nothing to make me happy but your company, with Solon" (8, p. 18).

From Glasgow, Smith went to Edinburgh and for 3 months attended the lectures of Munro, Secundus, on anatomy and surgery, and Black on chemistry. In general he was disappointed with Edinburgh, for at that time, as Dr. Harvey has pointed out, "the reputation of the school far outran its performance" (4). Besides, Nathan Smith was homesick. In a letter to his "dear Sally,"



dated February 23d, he is "quite homesick tho' very well on all other accounts," and says further that he plans to shorten his trip, stay but a few days longer in Edinburgh, make a short stop in London and sail immediately for Boston (8, p. 19). After leaving Edinburgh his nostalgia apparently lessened, for he spent the next 4 months in London making hospital rounds and attending lectures. For him London was greatly different, and he felt more at home there. At least the spoken language was more like that of his own country, and he was widening his acquaintance through letters of introduction to some of the notables, including the celebrated Dr. Lettsom. In addition, he could talk about home folks and New England affairs with The Reverend Samuel Peters, LL.D., formerly of Hartford and Hebron in Connecticut. Peters, an Episcopal minister, had emigrated to England at the beginning of the Revolution and was there to become, among other things, "Connecticut's most unreliable and prejudiced historian" (4).

In a letter to President Wheelock, Peters wrote, "... Dr. Nathan Smith who has lately come here from Edinburgh, where he has gathered oriental if not boreal light to enlighten the occidental region with the healing art—I am thankful to you for introducing him to me; his manners, conversation, and science entitle him to my esteem and your recommendation to my best attention" (1). Some personal qualities of Nathan Smith are here revealed, but those of the writer are far more evident.

Before leaving Edinburgh Smith sent to Dartmouth medical books to the value of thirty pounds, which he said in one of his letters he hoped the trustees of the College would purchase, as he could ill afford the expense. In September, 1797, he arrived in Boston on the ship *Apollo*, bringing with him more books for the new medical school and apparatus for anatomy, surgery, and chemistry. A diploma attained through the agency of Dr. Lettsom soon followed, making Smith a corresponding member of the Medical Society of London.

On his arrival in Cornish he found his wife and Solon well and a new son Nathan Ryno Smith, then 4 months old, "Ryno" being another extract from Ossian. The story is told that, when his wife was preparing for his coming, she borrowed several babies from the neighbors and made him select his own from among them. Fortune smiled that day for he immediately picked his own.

According to Dr. Oliver P. Hubbard (5), "The first full course of medical lectures was delivered (at Dartmouth) by Dr. Nathan Smith in the autumn of 1797 before his election as Professor. . . in August 1798 the plan proposed by Dr. Smith in 1796 was adopted by the Trustees, and he was appointed a Professor, 'whose duty it shall be to deliver public lectures upon Anatomy, Chemistry, and the Theory and Practice of Physic.'" This body also prescribed the conditions of study and graduation and conferred the degree of A.M. on Nathan Smith. That of M.D. came 4 years later in 1801.

At the beginning of medical affairs at Dartmouth there was no salary from the College, and Nathan Smith was dependent upon the small fees of the medical students and the meager returns from his practice. It was not that the latter was not extensive, but the time spent in travel over bad roads winter and summer made many trips hardly profitable. The quarters for the embryo medical department were small and inadequate. There is evidence that the school was started in a small two-story house of four rooms. In August, 1799, the trustees fitted up a room for the medical lectures in the first story of Dartmouth Hall. It was at this period that Nathan Smith became an exponent of smallpox vaccination. Along with Benjamin Waterhouse he must be considered a pioneer, for probably within a month of the time Waterhouse vaccinated his own family, Nathan Smith had also used the vaccine. In a letter to Lyman Spalding, August 20, 1800, he writes, "I have to acknowledge the receipt of two letters from you since I wrote you and am under great obligation to you for the kine-pox infection which I received in your first letter. . . I



have used some of the infection that you sent me. I have never subjected any of my patients to the infection of the small-pox" (8, p. 25).

By 1801 Dartmouth Medical School was a flourishing enterprise, Nathan Smith running it practically single-handed, his only assistant being Lyman Spalding whom he paid out of his own pocket to give lectures on chemistry. In this year, also, Dartmouth bestowed on him the honorary degree of M.D. Within 2 years he was given more space for his work, and in addition the Legislature gave him \$600 for medical apparatus. In August, 1804, the trustees voted Smith a salary of \$200 a year on the condition that he should move his family to Hanover from Cornish, and this was done the next spring.

An anecdote of the time, which has survived the years and which two witnesses have testified to, relates that President Wheelock came from Dr. Smith's lecture room to evening prayers in the old chapel and gave thanks as follows, "Oh, Lord! we thank Thee for the Oxygen gas; we thank Thee for the Hydrogen gas; and for all the gases. We thank Thee for the Cerebrum; we thank Thee for the Cerebellum, and for the Medulla Oblongata" (8, p. 32).

During his years at Dartmouth Nathan Smith formed many friendships with his pupils which deepened with the years. Among these was Lyman Spalding, who for a time lived in his house and assisted him at the school; Cyrus Perkins, who taught anatomy and surgery at Dartmouth; Reuben D. Mussey, who also taught there; and George C. Shattuck, who founded the Shattuck Professorship at Harvard and was a benefactor of Dartmouth. Many letters to Shattuck from Nathan Smith survive to tell us a great deal about Smith's problems particularly during his Dartmouth period. One of particular interest is written at Hanover, May 14, 1810, at a time when the Legislature seemed reluctant to support the medical school and threatened to outlaw dissecting for anatomical purposes. Smith writes "...if the things should take this

course it will afford me a good pretext for leaving the College and State, a thing which will not be disagreeable to me" (8, p. 51). It is pleasant to record that amid these and other difficulties greater distinction was coming to Nathan Smith. In 1811 he was chosen president of the New Hampshire State Medical Society, and strangely enough, the London Society, forgetting its action in 1797, presented him with another diploma, and Harvard gave him the honorary degree of M.D.

His practice was also spreading, and he was called upon to perform eye operations, one on Governor Lincoln of Massachusetts and another on the 16-year-old daughter of Judge Paine of Worcester. At the time he wrote to Shattuck "If these two operations succeed, as they promise, I shall be in danger of receiving more flattery and commendation than I can well bear. ... I feel more inclined than ever to move to Boston to practice my profession" (8, p. 55). Again to Shattuck, he writes of a grant of \$3450 from the legislature for a medical building to be finished by the first of October" (1809).

Under date of June 26, 1812, Smith describes a tour during which he attended a meeting of the Legislature, made professional visits, and operated in the Merrimack region, visited Boston, and on the way home extirpated a tumor in Truro and another in Charlestown (8, p. 66). This was in the vacation period of the school, but even in the lecture months his calls were often widely scattered. On May 2d of that year he writes, "I have fallen to my old habits and am bandied about from one part of the country to the other. Last week I was in the upper Coos, eighty miles above Hanover and am now at Weathersfield in the service of Mr. Jarvis, late Consul at Lisbon who has been dangerously sick but is, I think, today out of danger" (8, p. 66).

During the first decade of the 18th century stirrings for a medical school at Yale were being manifest (2). As early as 1793 President Stiles had seen the need of train-



ing in law and medicine. It remained for his dynamic successor, President Dwight, to inaugurate training in the sciences, and in 1802 Benjamin Silliman was appointed to the Chair of Chemistry and Natural History at Yale College. He records that he "Expected from the first to be ultimately connected with the Medical School" (2). In 1806 Yale took the first step in the founding of a medical school by the appointment of a committee to consider the establishment of a professorship in medicine. The next year the Connecticut Medical Society appointed a committee of its own to confer with the Yale group, and, after many meetings, the fall of 1810 saw plans for a medical school completed. Four professorships were to be created, one in Chemistry and Pharmacy, one in Theory and Practice of Medicine, one in Anatomy, Surgery, and Midwifery, and one in Materia Medica and Botany. The first and last of these were slated for Benjamin Silliman and Aeneas Munson, respectively. The second chair was somewhat reluctantly accepted by Mason Fitch Cogswell of Hartford, the chair in the Theory and Practice remaining for a time unfilled. Many of Nathan Smith's friends urged that he should be considered for this post, Cogswell adding weight to this. The result was that in the spring of 1812 Nathan Smith was appointed Professor of the Theory and Practice of Physic, Surgery, and Obstetrics. For a while the Yale Corporation had paused in the Smith appointment because of a rumor concerning his lack of religious faith, but on his renunciation of any such heresy the appointment went through. From the title of his professorship it would appear that at Yale, too, he was to occupy another "settee."

The site chosen for the medical institution at New Haven was a building at the head of College Street, designed originally as a hotel and leased from James Hillhouse. After it was converted to its new purpose the building housed the medical school for the next 45 years. It is likely that some instruction in medicine was given in 1812 and 1813, but Smith did not arrive permanently

in New Haven until the fall of 1813. In March of that year in a letter to Silliman he intimates that he will soon be going to New Haven and bring with him some five or six hundred books, "which should contribute to build up the intended Institution at New Haven" (8, p. 86).

In the fall of 1813 the Medical Institution of Yale College was off to a good start, 37 students were enrolled, and a complete set of lectures and demonstrations under way. Smith continued to give lectures at Dartmouth until 1816, when he declined to accept the reelection to a professorship offered by the trustees there.

Nathan Smith was now 51 years old, he owned a small farm in Hanover, and there he could leave his wife and children until he found a home for them in New Haven. He was considerably delayed in coming to Yale, however, for in the spring of 1813 a severe epidemic of typhoid fever swept the vicinity of Hanover. To Benjamin Silliman he wrote on March 31, "... I was afraid to leave my family in such perilous times; and my fears were not groundless,—four of my children have lately been affected by the prevailing epidemic, but by the divine Goodness have nearly recovered" (8, p. 85).

It was not until the autumn of that year that Nathan Smith came to New Haven with his sons David Solon and Nathan Ryno, both to be students in Yale College. Immediately on arriving, however, his plans were set back by a severe contusion of the leg caused one dark evening by running into a plank. Fever followed, and during the next few months he was invited to stay in the home of William W. Woolsey, a retired merchant living in New Haven. His son, President Woolsey of Yale relates that, "when Dr. Smith came to lecture at Yale, in 1813, he came directly to my father's house, and remained there all winter. He was the most delightful, unselfish and kind-hearted man I ever knew and we children all loved him. He was confined to the house by an injury to his leg, and it was a great treat for us to be in his room, and difficult



to keep us out" (8, p. 90). This testimony as well as that of his own children on many occasions shows that Nathan Smith loved children and they in turn loved him.

Smith's reputation had preceded him to New Haven, and he soon gained a large practice, calls being made to all parts of the State. In his ledger, 1813-1814, is a record of visits and charges. For an ordinary visit with prescription the fee was 50 cents, and even when surgery was done the charges were seldom over 5 dollars.

In a neway letter to his wife, March 4, 1814, he says, "Ryno is one of the first in his class and Solon improves very much. A cook abused one of the scholars in the kitchen and the scholars put the cook under the pump and pumped him, as it is called. I think however, it will be settled without much difficulty. Solon was one who helped pump the cook, but so many assisted in the thing that the blame will be light on the individuals" (8, p. 96). At this time Nathan Smith seems to have been living at the Institute and apparently was called upon to serve as proctor along with other duties. The medical school had student sleeping and study rooms above the commons in the basement, and no medical school of that or any later period was ever more closely connected with a college. The medical class assembled morning and evening for prayers, the professors officiating, and the rigid rules governing the students in the College applied to the Medical School. These academic customs were continued until 1824, when the theological and law departments were established.

After a short lease the building and some adjoining land for a botanical garden were purchased by the Institution, the funds being obtained from the Connecticut Legislature through the personal efforts of Nathan Smith. The generous sum of \$20,000 was sufficient to pay for the building and for the start of a library and an anatomical museum.

In the spring of 1815 Nathan Smith was called to Hanover by the illness of his oldest daughter Sally Malvina, then 16. She died

on June 13th. This was the first break in the home circle and was a sorrow which remained deep with him always. He returned to New Haven in September and in the spring of 1816 had the glowing satisfaction of seeing Solon take his M.D. degree. At this Commencement, too, a play written by Nathan Ryno was enacted. He was then a junior in the College. Later, following his graduation Ryno became a tutor in a Virginia family and after a year there returned to New Haven to being the study of medicine with his father and colleagues. In 1819 Solon started to practice in Sutton, Massachusetts, the home of many of his maternal ancestors.

In the spring of 1817 the Smith family moved to New Haven, and 2 years later, on the 26th of July, a sixth daughter and tenth child was born to Nathan and Sarah Smith.

The Medical Institution was successful from its beginning, gaining prestige and influence unsurpassed by any other American school. In no sense was this a one-man show, for its first faculty, although limited in numbers, represented an extraordinary galaxy of talent. Much of its success must be credited to the vision and efforts of President Dwight who today remains numbered among the great of Yale's presidents. Benjamin Silliman, upon whose shoulders the mantle of Franklin is said to have fallen, occupied the Chair of Chemistry and Pharmacy. Eli Ives, Professor of Material Medica and Botany, was far ahead of his time in his knowledge of botany and late in life was chosen president of the American Medical Association. Jonathan Knight was Professor of Anatomy and Physiology and, after Nathan Smith's death, the leading surgeon in Connecticut. He was the first president of the National Medical Association which became the American Medical Association. Concerning the academic background of these men, all were Yale College graduates, and all had received the best professional training the country then afforded. This was in striking contrast to that of Nathan Smith and serves to reemphasize the innate



genius of the man who William H. Welch said, "did more for the general advancement of medical and surgical practice than any of his predecessors and contemporaries in this country" (8, p. 153).

The year 1820 records for Nathan Smith a new excursion in the field of medical education. In June of that year the State of Maine passed an act establishing and endowing the Medical School of Maine. Its creation was due in no small part to the fact that Nathan Smith had been previously consulted on the subject of being placed at its head. In 1821 the school was opened at Bowdoin College in Brunswick, Smith giving the various lectures with the exception of chemistry. There were 21 students in the entering class, and the next year this increased to 49. Dr. Nehemiah Cleaveland, historian of Bowdoin, says, "As I was at that time studying medicine I joined the class (of 1821), attended the lectures, was present at most of his operations in the neighborhood, and saw much of him in general society. The course over, I accompanied him, in that most sociable of vehicles, a one-horse chaise, on a professional tour to Wiscasset and up the Kennebec. . . . Dr. Smith was a large man. . . . His expressions and genial countenance, his very attitude and air, were admirably caught by the great artist who fixed them on his canvas, and where the picture will reproduce his image to all knew who him" (8, p. 112). This no doubt refers to the portrait of Smith by S. F. B. Morse, which was presented to him by the Yale Medical School class of 1826. It is today one of Yale's prized possessions.

Within a few months of Maine's medical school activities the University of Vermont established its medical department. This was another Smith enterprise, however, one of father and son, for Nathan Ryno Smith (1797-1877) had begun to practice in Burlington in 1824 and the next year was appointed to the Professorship of Surgery and Anatomy in the new school. Nathan Smith not only delivered courses and lectures at

Vermont but, through an extensive correspondence with his son, greatly aided in the establishment of this fifth New England medical school. It should be remembered that not only did Nathan Smith give many lectures in these schools but on many occasions appeared before state legislatures in their behalf.

Still another medical school was to benefit from the wise counsel of Nathan Smith. This was the Jefferson Medical College of Philadelphia, founded jointly by Dr. Nathan Ryno Smith and Dr. George McClellan. Here Nathan Ryno Smith occupied the Chair of Chemistry, but, within 2 years, being as peripatetic as his father, he moved to Baltimore to the Chair of Surgery at the University of Maryland. Here he was to finally settle down, but only after 3 years as Professor of Surgery at the Transylvania Medical School in Kentucky. Nathan Ryno Smith came to greatness of his own as a surgeon and medical teacher. Sire and son were eminently worthy of each other.

All of Nathan Smith's three other sons became physicians. Solon (1785-1854), the oldest, was the leading physician and surgeon in Sutton, Massachusetts, having a large consulting practice and being distinguished as a naturalist. The third son, James Morven ("Ossian") Smith (1805-1853), received his M.D. at Yale in 1828 and for 26 years was successful as a surgeon in Springfield, Massachusetts. He met death in a railway accident at the age of 48. John Derby Smith (1812-1884), the fourth son, graduated from Yale College and was ordained a minister at the Andover Theological Seminary. He preached for 10 years at Charlemont, Massachusetts, and then because of throat trouble gave up the ministry and studied medicine at Baltimore with his brother. During the Civil War he was a navy surgeon.

The Smith dynasty did not stop here. A grandson, Nathan Smith Lincoln (1822-1898), occupied at different times four chairs at the Columbian University at Washington, D.C., and during the Civil War was surgeon-



in-chief to five hospitals. Dr. David Paige Smith (1830-1880), son of James Morven, was called to the Chair of Theory and Practice at Yale in 1873 and 4 years later to the Chair of Surgery. Alan Penniman Smith (1840-1898), third son of Nathan Ryno, was an incorporator of Johns Hopkins University and in 1873 became Professor of Operative Surgery at the University of Maryland.

The final years of Nathan Smith were spent mostly in New Haven, but there was no lessening of his activities as a lecturer, a surgeon, and a writer. Solon and Ryno were now (1827) well established, and he expressed his pride in them. At that time James Morven was still in medical school there, and John Derby was about to enter Yale College. On December 8, 1827, Smith wrote to Shattuck that he was in good health, writing a book on surgery, and also some essays to be given before medical meetings (8, p. 137).

However, 6 months later in July of 1828 he was seized with an illness which was probably a cerebral accident and from which he did not entirely recover. Early in January of the next year he experienced considerable pain accompanied with vertigo. This was followed by a numbness of the left hand and some difficulty in articulation. At this time, in addition to his local medical attendants, he was visited by Reuben D. Mussey, his pupil and successor at Dartmouth and the faithful Shattuck of Boston. His chief worry at this time was the financing of John Derby's education, who was then in his second year at Yale College. Shattuck greatly relieved his anxiety by promising to assume this responsibility, a promise faithfully performed. During the latter part of January the symptoms of paralysis increased, and on the 26th, in his 67th year, Nathan Smith came to final rest.

Inscribed on a sandstone monument in Grove Street Cemetery in New Haven is this inscription which with characteristic

simplicity Nathan Smith might have written for himself.

#### N. SMITH

Professor of Med. & Surgery  
in Yale College

Born at Rehoboth, Mass., Sept. 30, 1762

Died in this city, Jan. 26, 1829

The greatness of Nathan Smith does not rest on his importance as an educator or skill as a surgeon. Any one of several of his contributions to scientific medicine assures his immortality in medical annals. His contribution to vaccination has been mentioned. His essay on the Pathology and Treatment of Necrosis is an abiding classic. His pioneering in surgery included improvements in managing fractures and dislocations of the thigh and improvements in lithotomy. He was the first to perform staphylorrhaphy for cleft palate. His great contribution to abdominal surgery will be mentioned shortly.

In an informative essay Dr. Ashley W. Oughterson has written on "Nathan Smith and Cancer Therapy" (6). He tells us that Nathan Smith's views with regard to cancer were quite in accord with those of the best European clinics, that he fully appreciated the spread of cancer by lymphatic channels, and had observed cancer in nearly all of the internal organs. In commenting upon Smith's technique for extirpation of the breast, Oughterson says, "Today we perform a somewhat more radical procedure, but the fundamentals of early diagnosis and radical excision with removal of the lymph nodes, if involved, were clearly recognised by Nathan Smith."

One of Nathan Smith's greatest contributions to modern surgery demands more than mention. His operation for ovariectomy, acknowledged to be the second performed in this country, was probably the first anywhere to embrace the technical principles of laparotomy done for the same purpose



today. Smith performed ovariectomy in 1821 with no knowledge that he had been preceded by Ephraim McDowell. What is more remarkable is that he anticipated modern technique by dropping the tumor pedicle into the abdominal cavity instead of suturing it to the abdominal wall. The operation was performed upon a Mrs. Sturbridge at Norwich, Vermont, who deserves to be remembered along with Mrs. Crawford, McDowell's patient. At the time of the operation Smith was 59 years old and the distance of Norwich from New Haven illustrates how far-flung his surgical practice was (9).

Historians agree that Nathan Smith's most important single contribution to clinical medicine was his clear definition of typhoid fever as a clinical entity; "never before had the symptoms been so clearly and accurately pictured," says Welch (8, p. 154). A fine account of "Nathan Smith and Typhoid Fever" is that written by John R. Paul in 1930 (7). He writes, "This ability to recognise typhoid as a distinct and familiar entity gave him great advantage, and through it he recognised the principle of acquired immunity in the disease. . . he succeeded in not only clarifying the disease picture but in casting a ray of light into the darkened sickroom where the patient lies, revealing the intimate problems which concern him and his family."

In this latter observation Dr. Paul expresses a conviction felt by all historians who seek acquaintance with Nathan Smith, that along with his important contributions to modern medicine to his greatness must be added those qualities of humanity and devotion which made him a dedicated physician. This bears out surviving evidence, his own letters and those of others, eulogia by those who knew him, anecdotes handed

down, and his own writings, from which emerge two deep inner devotions in Nathan Smith, one to his family the other to his calling. With him everything else was secondary.

Nathan Smith is to be ranked among the truly great of American physicians, but in an age of specialization there may be something elusive about the universality of his genius. Educators have extolled him as a pioneer in medical teaching, surgeons have praised his skill and acumen as a surgeon and physicians his important contributions to clinical medicine. All are important, but his stature is not to be measured by adding these parts together. We must "take him for all in all," and it is in this spirit we should seek to learn more about Nathan Smith.

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# Medical Education in Soviet Russia

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## INTRODUCTION

The Western medical profession's knowledge concerning the development of Soviet medicine during the preceding two decades is most meager. This situation may be attributed to several factors. First, there was a paucity of pertinent material available for study during this period due to the restrictions imposed upon the exchange of scientific data between Russia and Western Nations. In addition, as a result of the exigencies of war and politics, the interchange of competent and interested observers was reduced to an insignificant number. Furthermore, the lack of Western scientific personnel familiar with the Russian language limited the significance of the few Russian scientific journals which were available. And finally, the deficiencies of Russian medicine evident during the initial years of Soviet rule may have minimized the value of any further exchange.

Within recent years, particularly since the death of Stalin, an increasing fund of information concerning the status of Soviet medicine has been made available through the exchange of medical missions between the Soviet Union and Western nations and through the encouragement of tourist travel in Russia. In addition, the translation and distribution of many Russian scientific journals by the National Institutes of Health, Bethesda, Maryland, have enabled scientists in this country to become acquainted with Russian scientific progress. And finally, the recent demonstrations of the proficiency and accomplishments of Soviet

Science have illustrated the need for a careful appraisal of Russian medical progress.

Despite this improvement, however, and the recent publication of several articles on Soviet medicine (1,4,6,9,10), the current status of medical education in the Soviet Union has not received sufficient attention. The last complete analysis of the program of medical education was made by Michael B. Shimkin (12) in 1943 and contains, in detail, the 6-year curriculum then in use. Since this last article there have been many changes instituted in this curriculum as well as modifications of other aspects of the system of medical education. A review of the current trends in Soviet medical education is needed if we are to familiarize ourselves with present-day Russian medicine.

During the summer of 1956 I visited the Soviet Union for 3 weeks and attended a seminar in Leningrad and Moscow devoted to a discussion of medical education. This conference was sponsored by the International Union of Students (IUS), whose headquarters are in Prague, Czechoslovakia, and was attended by medical students from 35 countries. The political implications associated with this gathering may have discouraged others from attending, since I was the only United States citizen present. At the time I obtained the Russian visa I clearly stated that the trip was at my own initiative and that I was not a representative of any medical group. An informal account of my experiences while in the Soviet Union may be found in the *Medical Quarterly of the New York University College of Medicine* (13).

During my brief stay I visited medical schools, hospitals, and research centers in

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both Leningrad and Moscow and conversed at some length with Russian medical students. This article is not only a record of my observations while in the Soviet Union, but also contains pertinent material supplied by Professor E. G. Ostroverkhov, Director of Medical Education in the Health Ministry of the USSR, who was most kind in response to my many questions. Thanks to his efforts the section devoted to the Russian medical curriculum may be considered current and accurate.

This paper presents new and detailed material relating to the Russian medical student, to the Student Scientific Circles,

"a single constitution, a single curriculum, and a single program for each subject" (11) in the different medical schools.

The medical institutes contain either a "single-faculty" or "many-faculties." The latter offer instruction in as many as five distinct disciplines (medicine, pediatrics, public health, dentistry, and pharmacology), while the former may offer courses in only one of these fields. The majority of the institutes are "many-facultied" (medicine, pediatrics, and public health), and their advantage resides in an economy of space and labor by providing facilities that may be shared by the various disciplines. On the

TABLE 1  
THE ENROLLMENT, ADMISSIONS, AND GRADUATIONS OF THE  
SOVIET MEDICAL INSTITUTES (7)

Faculty	No. in 1956	Enrollment Sept. 15, 1956	Admitted 1956	Graduated 1956*
Medicine	66	95,442	12,550	11,059
Pediatrics	25	23,364	2,840	2,513
Public health	22	18,438	2,763	2,228
Total	113	137,244	18,153	15,800
Dentistry	12	5,675	904	841
Pharmacology	6	9,848	1,343	1,103
Grand total	131	152,767	20,400	17,744

\* The statistics quoted for the Faculties of Dentistry and Pharmacology refer to the year 1955 due to their shorter 5-year program.

and to the most recent medical curriculum, which may help clarify and extend our knowledge of Soviet medical education.

*Soviet medical institutes.*<sup>1</sup>—The 77 medical schools in the Soviet Union are under the jurisdiction and guidance of the Government's Ministry of Health and have no official association with the nation's universities. The advantage of this arrangement resides in the facility by which the emphasis of medical training may be correlated with the varying medical needs of the Soviet nation. On the other hand, this approach has imposed a rigidity of thinking and purpose in medical education by insistence upon

other hand, the "single-faculty" institutes are regarded as the educational leaders of their respective fields. Of the 77 institutes, 66 contain faculties of Medicine. There are also single-faculty institutes of pediatrics (1), public health (1), dentistry (2), and pharmacology (7).

At present there are 152,000 students, 70 per cent of whom are females, enrolled in the medical institutes, where they receive instruction from 16,411 professors and instructors. The distribution of the medical institutes' student enrollment among the various Faculties is outlined in Table 1. Each of these institutes trains approximately 1500-3000 students, a much larger number than in comparable American institutions. Furthermore, about 16,000 physicians are graduated each year in the Soviet Union

<sup>1</sup> The statistical data employed in this section were quoted from a recent official Soviet Publication (7). All subsequent statistical notations in this paper, unless otherwise specified, were obtained from material distributed at the I.U.S. Seminar or from personal communications with Dr. G. E. Ostroverkhov.



as compared with 7,000 in the United States. This remarkable quantitative growth of Russian medicine under the Soviet regime is also reflected in the following statistics: In the Soviet Union in 1917 there were sixteen medical institutes and 19,800 physicians, while in early 1956 these figures were quoted as being 77 medical institutes and 329,442 physicians.

The Armed Forces maintain several institutes of medicine, distinct from those under the jurisdiction of the Ministry of Health. This arrangement facilitates the coordinated development of military strength and its dependent medical care. Information as to the number and location of these institutes could not be obtained, but they apparently fulfill the requirements of the Armed Services, as military duty is not required of physicians graduating from the regular medical institutes.

*The Russian medical student.*—The Russian students present at the seminar were the representatives of several of the Soviet medical institutes, and their characteristic physiognomies and costumes were pictorial evidence of the USSR's physical and cultural diversity. Their alertness, interest in their fields of study, and contagious enthusiasm were typical of students anywhere. Their knowledge of both practical and theoretical medical problems appeared to be of high calibre. They were familiar with Western scientific workers and expressed interest in possessing textbooks by such authors as Goodman and Gilman, Blalock, and Wangenstein.

The student's life at medical school appears well organized. He (perhaps "she" is more appropriate) attends compulsory lectures, laboratories, and seminars, participates in a well developed system of physical culture, and spends the summer holidays harvesting, working in the mills with a group of fellow students, or relaxing in one of the inexpensive rest homes maintained by the Trade Unions.

All Russian students receive not only free tuition, but also monthly stipends which vary according to their field of study and the

proficiency of the individual student. Thus, engineering students receive a greater stipend than medical students, and, similarly, the better students receive more than the average ones. Medical students' stipends, which average 300 rubles per month,<sup>2</sup> are continued during the summer holiday, even though no medical work is performed. Hostels are provided at a minimal cost (15 rubles/month), and my accommodations at the new Moscow University were clean, neat, and ample. Furthermore, the expenses incurred by the students while traveling and living in the rural hospitals during their fourth year in the course of completing their practical work are also absorbed by the medical institutes. This financial arrangement is appreciated by the students, and they speak of their stipends with pride. On the other hand, they are impressed with the ability of American students to obtain a medical education by their own initiative.

*Entrance requirements.*—Articles discussing the entrance requirements of Soviet medical institutes have been well documented, and the information I obtained is similar to these reports. In brief, a student seeking admission to any medical institute must be a graduate of a 10-year school (the equivalent of our secondary schools) or of a secondary medical faculty (a 3-year school which trains medical assistants). Competitive examinations in the Russian language and literature, mathematics, physics, chemistry, and one foreign language, as well as a consideration of their personal character and references, form the basis for the selection of students.

Up to 1936 preference was afforded to those students of proletarian background, and DeWitt (3) states that, although the stress upon social background was legally abolished in that year, the character references presently required may serve to eliminate those individuals considered politically undesirable.

Even though no limitation is placed upon

<sup>2</sup> At the present rate of exchange in the Soviet Union 4 rubles are equivalent to 1 United States dollar, but 10 rubles to a United States dollar would be a more realistic evaluation.



the prospective students as to their choice of institute they apparently must study within their respective Republic's medical schools, as I did not encounter students whose homes and institutes were in different Republics.

**Medical curriculum.**<sup>3</sup>—The Soviet medical curriculum consists of 6 academic years,<sup>4</sup> each extending from the 1st of September to the 1st of July. During these years 36–38 hours each week are devoted to academic or formal instruction. In addition to 2 months of summer vacation, the students receive a 2-week winter holiday.

The first 2 years (I and II) are concerned with the basic sciences (anatomy, histology, chemistry, physics), philosophy and politics, and languages (Latin and one modern foreign language). In the third (III) year the students commence their clinical training (3 hours twice a week) on the medical and surgical wards and also continue their lectures and laboratory work in microbiology, pharmacology, and pathological physiology. The fourth (IV) and fifth (V) years are devoted almost entirely to instruction in the various clinical disciplines, and not less than 3 hours per day are spent in the hospitals. The students also become familiar with the district polyclinics (the equivalent of our out-patient departments) which are the fundamental units of Russian medical care. Practical work predominates during the sixth (VI) year, and experience is obtained in the medical institutes' affiliated hospitals. The block system of instruction is used, whereby 2½ months are spent in medicine, 2 months in surgery, 1½ months in obstetrics and gynecology, and 1 month in infectious diseases. During this final year the medical students are designated as "sub-ordinators" while in the hospitals, but continue to remain under the jurisdiction of the medical institute. Didactic lectures are reduced to only four per week, providing

ample time for the students to develop their practical acumen. In fact, throughout the 6 years of training only 35 per cent of the curriculum is apportioned to lectures, while the remainder is spent in hospital and laboratory work.

The present curriculum is quite similar to the one in effect between 1944 and 1955 (Table 2), (see Shimkin, 1946 [12]), but certain subtle changes and new emphases are apparent. The course formerly entitled "Principles of Marxism-Leninism" has now the less pedantic designation of "Philosophical Disciplines." Also, a course of similar character, "Political Economy," has been introduced into the curriculum during the first 2 years. "Military Medicine" which had great pragmatic significance during the war years has been discontinued and its time allotted to "Physical Culture." The current emphasis on practical work is apparent when one considers that, though the present curriculum has been decreased 300 hours, the time assigned to the clinical fields of obstetrics and gynecology and to hospital therapy has been considerably augmented.

The basic instructional unit, a group of nine or ten students, is organized in the first (I) year and maintained intact throughout the medical training. Theoretically, one instructor is assigned to a group in each discipline.

At the completion of the fourth (IV) year the students live for 2 months in a rural hospital where they strive to develop broad clinical experience. During this period they are responsible for ambulance duty, minor surgical procedures, obstetrical deliveries, and the innumerable other services connected with a general hospital. These rural hospitals are staffed by physicians designated by the institutes of medicine. This is the only period during the student's training when he actually lives in a hospital and functions as an intern.

Following each semester (except after the eleventh) 4 weeks are designated as examination periods, at which time "current progress" is ascertained. In addition, there are examinations scheduled after the comple-

<sup>3</sup>The curriculum to be presented applies only to the faculty of medicine. The faculties of pediatrics, public health, stomatology, and pharmacology have different curricula beginning in the third (III) year which emphasize their special subjects.

<sup>4</sup>Dental and pharmacology students study 5 years.



tion of each particular course: philosophical disciplines, anatomy, etc. Finally, there are State examinations administered by special commissions which evaluate students in oral sessions after the second (II) year in anatomy, histology, physiology, and

biochemistry, and also after the sixth (VI) year in medicine, surgery, obstetrics, and gynecology, and organization of medical care and hygiene. The successful completion of these State examinations qualifies the students for the title and responsi-

TABLE 2  
THE SIX-YEAR RUSSIAN MEDICAL CURRICULUM—1955

No.	COURSE	SEMINAR EXAMINED	TOTAL HOURS		DISTRIBUTION OF HOURS			SEMINAR STUDIED
			1945*	1955	Lectures	Lab.	Seminars	
1.	Philosophical Disciplines (principles of Marxism-Leninism—45)	2, 4	250	250	160		90	1-4
2.	Latin and Foreign Language	4	298	220			220	1-4
3.	Physical Culture	1, 3, 4		166	16	16	134	1-4
4.	Physics	2	144	136	68	40	28	1-2
5.	Biology	2	216	190	86	104		1-2
6.	Anatomy of the Human Body	1, 2, 3	397	392	118	274		1-3
7.	Histology and Embryology	3	250	182	66	116		2-3
8.	Inorganic and Analytical Chemistry	1, 2	162	140	54	86		1-2
9.	Biological Chemistry, in- cluding Organic and Col- loidal	2, 4	374	295	131	164		2-4
10.	Physiology	4	278	247	132	115		2-4
11.	Microbiology	5	255	207	70	137		4-5
12.	Political Economy			90	60	30		4-7
	Military Medicine	5, 7	180					
13.	Pathological Physiology	6	162	155	68	87		4-6
14.	Pharmacology	6	219	170	68	102		5-6
15.	Pathological Anatomy	6	264	184	87	97		5-6
16.	Diagnosis of Internal Disease with Radiology	6	332	274	133	141		5-6
17.	General Surgery	6	213	189	87	102		5-6
18.	Operational surgery, includ- ing Topographical Anato- my	7	127	117	33	84		5-7
19.	Hygiene	7	254	162	81	81		5-7
20.	History of Medicine and Or- ganization of Health	9	119	125	51		74	8-9
21.	Clinical Therapy, including course on tuberculosis	8	276	253	111	142		7-8
22.	Clinical Surgery and a course of Neurology	8	246	200	98	102		7-8
23.	Neuropathology	9	138	106	44	62		8-9
24.	Skin and Venereal Disease	9	124	101	44	57		8-9
25.	Obstetrics and Gynecology	8, 10	279	379	83	96	200 H	7-12
26.	Otorhinolaryngology	9	96	88	31	57		8-9
27.	Pediatrics	10	212	166	66	100		9-10
28.	Ophthalmology	10	96	80	32	48		10
29.	Psychiatry	9	100	90	36	54		9
30.	Forensic Medicine	10	100	100	34	66		9-10
31.	Hospital Therapy with the Polyclinics		304	486	68	68	350 H	9-12
32.	Infectious Diseases and Epidemiology	11	184	214	32	32	150 H	10-12
33.	Hospital Surgery, Trauma- tology, and Stomatology		332	544	102	102	340 H	9-12
Total hours			6981	6698	2350	2762	1586	

H = Hours spent in hospital during sixth year.

\* Reference 12.



bilities of "Vrach" (Physician). Failure to pass these examinations was reported to be extremely rare. The few students who do fail, however, are re-examined and usually pass at this time. This outstanding record was felt to be the result of the careful techniques used to select students for medical studies.<sup>5</sup>

Table 3 contains the current medical curricula of the Soviet Union and of three

(radiology, microbiology, etc.). These circles are organized into sections: (a) medical-biological (concerned with the basic sciences) (b) therapeutic; and (c) surgical. Each circle elects a secretary, but the administration of the circle resides with a council elected by the students from the various sections. The institute's academic staff assumes the scientific guidance and encouragement of these scientific circles, but, in gen-

TABLE 3  
THE CURRENT MEDICAL CURRICULA OF THE SOVIET UNION  
AND OF THREE AMERICAN MEDICAL SCHOOLS

Distribution of Hours				
Course	Soviet*	Columbia (2)	Washing- ton (14)	Harvard (8)
Anatomy	574	595	618	487
Biochemistry	295	181	312	220
Physiology	247	226	306	220
Microbiology	207	192	264	169
Pharmacology	170	137	216	146
Pathology	339	498	504	331
Medicine	1227	1050	980	798
Surgery	1050	722	804	660
Pediatrics	166	348	327	216
Psychiatry	90	182	143	243
Neurology	106	88	53	39
Public Health	387	139	84	165
Obstetrics and Gyn- ecology	379	336	387	309
Medical Specialties				
Dermatology	101	62	18	37
ENT	88	40	30	40
Ophthalmology	80	42	30	32
	269	144	78	109
Elective		665	198	144
Total	5506	5503	5274	4261

\*Abridged from Table 2.

American Medical Schools. In the preparation of this table several courses of the 6-year Russian program were excluded to facilitate its comparison with the 4-year American curricula.

*Student research activities.*—The Student Scientific Circles are integral parts of almost every medical institute. They are the official organization of those students interested in scientific research and medical problems.

In each medical school the scientific circles are attached to particular chairs

eral, these students administer their respective societies.

The first medical institute of Leningrad has 4800 students, 1170 of whom participate in these scientific circles. There is a definite hierarchy of function as younger students perform literature surveys, learn experimental technique, and, only later, are allowed to conduct scientific experimentation. The students who carry out an experimental program are guided by a faculty member, and their expenses are borne by the responsible chair.

It is noteworthy that group experimen-

<sup>5</sup> The figures in Table 1 may contradict these statements, as 13 per cent of the entering class of 1950 did not complete their course of study.



tation was considered to be more effective and popular. For example, it was reported that 22 students are currently engaged in a single project under the direction of the Chairs of biochemistry and hospital therapy on "Biological Indices of Blood and Tissues under Physiological, Soporific, and Hypnotic Sleep, a Pavlovian Doctrine."

The scientific circles hold regular meetings where specific topics are discussed. Also, once a year, in the Spring, there is an annual conference of the various Student Research Societies at which the best papers are read. Some of these students receive awards from the Ministry of Higher Education, and often their works are published in the nation's scientific journals. Furthermore, a book is published each year containing the completed projects of many of the students.

*The graduate physician and post-graduate training.*—Upon graduating from medical school the Russian physician is offered a position, usually in a rural community, by the Ministry of Health. Since private medical practice has been virtually eliminated by prohibitive taxation, the young physician has no alternative but to accept the proffered post if he wishes to earn a living and practice his art. As incentives the new graduate is granted a month's vacation while continuing to receive his scholastic stipend, free transportation for his family and possessions to the site of his employment, and 50 rubles per month more salary than in a comparable post in the city. These financial benefits, as well as the awareness of the rural physician's importance to Soviet planning and ideals have not proved entirely effective in convincing students to assume their expected role in the nation's medical system. Field (5) has illustrated the devious means employed to avoid this rural service by drawing from the pages of the *Meditsinski Rabotnik* (The Medical Worker), the official publication of the trade union of medical workers. (This union includes physicians, nurses, technicians, medical assistants, midwives.) The major reason for this dissatisfaction is that the cultural and

housing opportunities of the rural community are totally inadequate when compared with the urban amenities which the student experienced while at work in the medical institutes. Also, the facilities and technical help placed at his disposal in the rural post are often vastly inferior to the equipment employed in the medical centers. Finally, the young physician, though well grounded in theory, often is unprepared for the surgical and medical demands that will be made upon him.

A certain small percentage (Field [4] estimates 10 per cent) of the graduating physicians may be relieved of their rural obligations and are offered the opportunity of continuing their medical education. Each year 2500 physicians, some of them from the ranks of the new graduates, are permitted to pursue a 2-year course in a medical institute's hospital leading to a specialty designation in medicine or surgery. During this time they assume the title of "ordinator" and receive a stipend befitting their advanced rank.

There are also 700 students, chosen on the basis of their work in the medical institutes and in the scientific circles, who, during a 3-year period in either a medical or research institute, develop their skill and proficiency in experimental research. At the completion of this study, they present their theses in both written and oral dissertations for consideration of the degree "Candidate of Medical Science." These candidates form the core of the Soviet Union's investigators and instructors in the Medical Disciplines. The title "Doctor of Medical Science" is reserved for investigators of merit who have achieved original and outstanding experimental work and is usually not conferred before 40 years of age.

A course of postgraduate medical education is also required for rural physicians, every 3 years, and for urban physicians, every 4 years. There are eleven postgraduate medical institutes specifically designed "to improve the professional standards of doctors," and 16,000 physicians prepare



themselves at these institutes for 4-6 months each year, while 8,000 additional physicians take a similar course of instruction in local community centers.

#### DISCUSSION

All aspects of Russian medicine, including the education and training of physicians are regulated by the Soviet government through the Ministry of Health. The sociological implications of this relationship have received thoughtful consideration from Dr. Mark Field, and I refer the interested reader to his recently published book (4). I shall limit my comments to several facets of the Russian system of medical education which I found of particular interest.

The majority of the courses which comprise the initial 2 years of the 6-year Russian medical curriculum represents material (biology, chemistry, physics, mathematics, language) which American students prepare prior to commencing medical studies. This distinction is of no consequence and reflects merely variations in the arrangement of the two educational systems. There are, however, two differences which are of significance, and merit comment. First, Russian medical students devote more time to the study of public health and of various medical specialties (otorhinolaryngology, dermatology, ophthalmology) than their American counterparts. These emphases enable the students to become familiar with the management of a wide variety of medical and surgical problems which they will encounter, after graduation, in their medical practice in a rural community. Second, the inclusion of courses of political significance (philosophical disciplines, i.e., Marxism-Leninism, political economy) in the medical curriculum is peculiar to the Russian system of education and is an example of the ideological indoctrination associated with medical training. The time allocated for the requisite attainment of scholastic proficiency in Marxist political and economic theory is inordinate (250 hours compared

with 138 hours for neuropathology, 212 hours for pediatrics, 219 hours for pharmacology) and does not contribute to the development of the students' medical acumen.

The payment of monthly stipends (300 rubles equivalent to \$75, United States) to students during their years of university training is an intriguing feature of the Soviet's educational system. These stipends may be conceived as a financial compensation offered to the students in anticipation of their future contributions to the growth and development of the Soviet Union. However, the student's conception of his national responsibility often conflicts with the designs of the government, and the resultant attempts at evasion of "duty," as well as the use of arbitrary decisions have been commented upon in this paper, and in a more detailed form by Field (5).

It is of interest that these stipends have an additional significance. For instance, academic achievement is recognized not only by awards of medals and certificates, but also by an increase in the monthly stipends. Furthermore, stipend values vary according to the field of study. Thus, students of engineering, mathematics, and physics receive a more substantial allowance than their counterparts in medicine. This variation may reflect the importance attached to these various disciplines by the current Soviet Government and is an indication of the secondary status of medicine in Russia today.

The widespread student interest in scientific inquiry, indicated in personal conversations with Russian medical students, is further attested to by the great popularity of the scientific circles. Their structure permits students to participate in research projects in capacities which vary according to their particular skills. The students are exposed to the problems of experimental investigation in an orderly fashion: first, familiarizing themselves with the pertinent literature, then developing competence with various experimental techniques, and, finally, directing a research project. Proficiency is



rewarded by advancement within the framework of the scientific circle. The design of these scientific circles is conducive for the development of achievement in research endeavors. Although it is true that "chance favors the prepared mind," it is also essential that the successful experimenter be endowed with resourcefulness and initiative. Whether the regimented design of the scientific circles can be conducive to the development and expression of these aforementioned qualities will be revealed by observing the progress of Russian medicine in the subsequent years.

It is apparent, therefore, that many aspects of the Russian system of medical education bear a direct imprint of Soviet governmental policy. In many respects it would appear that the Soviet's attempts to integrate medical education with the needs of the Russian nation, be they medical, military, political, or economic, have compromised the high standards of intellectual freedom and motivation which have characterized the training of physicians in the Western world.

#### SUMMARY

The growth of Russian medicine under the Soviet's guidance is formidable. The number of medical schools has more than quadrupled in the brief span of 40 years, and the current number of students graduating each year (16,000) almost equals the total number of physicians in the USSR in 1917 (19,800). This remarkable development has been attained by including the profession of medicine and the training of its members in the goals of the Five Year Plans.

The benefits of this arrangement are apparent when one considers the statistics quoted above, but the detrimental effects imposed by governmental control of medical education are commented upon in this article.

I was impressed by the many similarities between Russian and Western medical curricula, by the alertness and intelligence

of the students, and by the encouragement of student scientific research.

Unfortunately, in a brief visit only glimpses of Soviet medicine are possible, and, while one may be stimulated by this exposure, definitive statements and evaluations cannot be made. Statistical data, a printed curriculum program, and brief social encounters are poor substitutes for the actual participation in an educational scheme. It is hoped that in the near future opportunities for a period of exchange study may be afforded to both Soviet and American students.

#### ACKNOWLEDGMENTS

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## Construction of a Final Examination To Assess Clinical Judgment in Psychiatry\*

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The senior clerkship in psychiatry at U.C.L.A. School of Medicine is primarily designed to teach students to observe, understand, and clinically evaluate patients with severe emotional illnesses. Groups of four students rotate through the clerkship, receiving intensive supervision of their clinical work from five or six instructors in psychiatry. At the end of the year some type of evaluation must be made of students' clinical skills in psychiatry. It is difficult to be satisfied with standard methods of examination because of their obvious inadequacies in assessing clinical skills. True-false and multiple choice examinations test content or "book" learning; a student may have acquainted himself with the characteristics of a borderline schizophrenic but still be unable to recognize the disease in a person he sees before him. Essay questions are also not directly relevant to clinical skills and in addition are extremely difficult to grade fairly because of the usually complex criteria involved and the common tendency of the grader to overweight verbal facility. Although performance ratings by instructors do refer to the student's clinical work, they unfortunately provide no control over an instructor's biases, and they are based on conditions of observation which are not uniform for all students. Owing to the serious shortcomings of the usual methods of evaluation, the problem was to develop methods for more adequately

assessing clinical skills in psychiatry. An adequate method should: (a) provide uniform conditions of assessment, (b) utilize a uniform, objective criterion against which to measure proficiency, and (c) test clinical skills without introducing irrelevant skills. We believe that the method described here meets these criteria better than existing methods with which we are familiar.

### PROCEDURE

Spontaneous, 30-minute psychiatric interviews were filmed of two patients with different psychopathology. In the filming of these interviews the lighting, sound recording, camera placement, and use of a Zumar lens on one of the cameras were integrated to produce the effect that the viewer seems much of the time to be in the seat of the interviewer.<sup>1</sup> Five principal clerkship instructors, all psychiatrists, viewed the films and separately made clinical evaluations of the patients by assigning ratings of from 0 to 6 to each of some 300 statements. The ratings represented a continuum of characteristicness, with zero indicating "not characteristic" and six indicating "very characteristic." The statements given to the instructors had been previously selected by the authors to represent a general population of statements which could be used for the psychiatric description of any major type of emotional illness. Some of the statements were descriptive (e.g., "Circumstantial" or "Overt-

\* This study was supported by a grant from the James L. White Foundation.

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<sup>1</sup> Thanks are due to Ernest Rose and the Department of Theater Arts, Division of Cinematography of U.C.L.A. for filming the interviews.



ly anxious"), some evaluative (e.g., "Delusional material is present or close to being expressed in the interview" or "Ambivalent toward significant persons"), some theoretical (e.g., "Defending against strong unconscious homosexual impulses" or "Guilt provokes the patient to blame others"), and some prognostic (e.g., "Likely to benefit from electroshock treatment" or "Likely to benefit from short term psychotherapy"). The statements permitted a description of patients in terms of their manifest interview behavior, their mental status, their modes of relating to others, their defense mechanisms, and, to some extent, their psychodynamics.

Instructors were asked to make two evaluations of one of the patients, the first

TABLE 1

CORRELATIONS BETWEEN INSTRUCTOR'S EVALUATIONS AND THE CRITERION EVALUATIONS

INSTRUCTOR	PATIENT 1 (N=109)	PATIENT 2	PATIENT 2
		Half-way evaluation (N=88)	End evaluation (N=98)
A	.93	.89	.94
B	.91	.91	.92
C	.90	.83	.88
D	.87	.86	.93
E	.91	.94	.94

after viewing only half of the interview and the second at the conclusion of the interview. This was done because the patient displayed his pathology much more openly in the latter part of the interview. The half-way evaluation would subsequently present students with the task of recognizing this patient's pathology from less obvious indications than would be apparent further along in the interview. The other patient was only evaluated at the end of the interview because there was no marked change in the unfolding pathology through the interview.

Since it would not be fair to ask students to evaluate a patient with statements on which their instructors did not agree, only those descriptive statements on which the instructors showed a high degree of agreement were used for the final examination.

About 100 statements for each evaluation were rated sufficiently alike by the instructors to be included in the final examination. Generally, if the ratings given to a statement were restricted to three consecutive categories (e.g., 0, 1 and 2 or 1, 2, and 3 or 2, 3, and 4, etc.) or to fewer than three, agreement was considered sufficient. About a half-dozen statements for each evaluation showed a two-category range for four of the instructors, with the fifth instructor's rating being widely discrepant. In these rare cases the statement was included in the final examination, but the rating of the one instructor who deviated from the others was not used in establishing the criterion rating for that statement. An average of the instructors' ratings for each of the approximately 100 statements on which the instructors substantially agreed yielded three criterion evaluations, the "correct" ratings with which students' ratings could be compared. The correlation between the ratings of a student's evaluation and the ratings of the criterion evaluation for a patient would indicate the extent to which the student's evaluation agreed with the evaluation of his instructors. The closer a student might come to the criterion (i.e., the higher his correlation with the criterion), the more "correct" we assume his clinical judgment to have been in the case.

As a final check on the above method of establishing the criteria we must ask how well each instructor's evaluations agreed with the composite criterion evaluations. The relevant correlations are presented in Table 1. Because the criterion evaluations were based on instructors' average ratings and because the instructors did not agree perfectly in rating the statements used for the final examination, we could not expect the evaluation of any individual instructor to correlate perfectly (i.e.,  $r = +1.00$ ) with the criterion. The high correlations of Table 1 indicate that the instructors did agree highly in rating the statements used for the final examination. These correlations also provide an absolute standard for judging how well students, collectively and in-



dividually, score on the examination. If the correlation between a student's evaluation and the criterion evaluation approximates the range of correlation of the individual instructors with the criterion (i.e., the range of .83 to .94), we know that the student has done about as well as his instructors in evaluating the patient; he has done very well indeed.

For their final examination, 47 senior medical students were shown the two filmed interviews and made the three evaluations with the preselected statements. Twenty minutes were allowed for each evaluation, the entire examination thus taking 2 hours. The students' evaluations were punched on IBM cards and, with an electronic calculator, rapidly correlated with the appropriate criterion evaluations.<sup>2</sup> The three correlations obtained for each student indicated the extent to which his evaluations approximated those of his instructors.

#### DISCUSSION

As is the case in most areas of medicine, in psychiatry no certain or absolute criterion is available for quickly validating clinical judgments. Expert opinion provides the most practical criterion. In establishing criteria for the final examination, only those statements showing considerable agreement among the instructors were used. The criteria were thus based on *shared* expert clinical judgment. Although it may be assumed that the experts used in this examination would agree with other experts, the question of the general representativeness of the criterion evaluations is really not relevant here. The students were only asked to show what they learned from their instructors.

The students were enthusiastic about their final examination. This type of examination is interesting and relatively pleasant to take. The method is also fair, because everyone saw the same interview, used the

same statements to evaluate the patient, and was compared with the same criterion. Finally, using IBM equipment, students could be rank-ordered quickly and certainly in terms of their agreement with the criteria. However, aside from convenience, objectivity, and fairness, it is important to consider just what the examination measured. It manifestly involves the ability to observe, evaluate, and formulate a particular psychiatric case under final examination conditions. The evaluation of cases is, without doubt, an important component of clinical skill in psychiatry, but it is not the only important component which the medical student should learn. The ability to relate appropriately to patients and to conduct a psychiatric interview are essential skills not directly involved in the method described here. "Relationship" skills are closely associated with the manner in which students handle anxiety induced by patients in a face-to-face relationship. Whether the ability to evaluate cases in a final examination is related to a student's handling of patient-induced anxiety is an unanswered question. Although a final examination, like a psychiatric interview, usually evokes anxiety in a student, the test situation primarily induces his concern about doing well, whereas the interview situation produces additional apprehension about relating to the patient. The interview situation may thus be more anxiety-provoking for the student. In fine, then, we believe that the examination method described here assesses the student's ability to formulate psychiatric cases under conditions of not too intense anxiety. It is not intended nor can it be assumed to measure a student's skill in interviewing or treating patients.

The method described above has additional teaching and research possibilities. Its primary teaching value lies in forcing students to make as many judgments as there are statements provided about a case. Students cannot avoid considering certain questions about a case but must think in terms of as many dimensions as are presented to them. Another value of this meth-

<sup>2</sup>The computational work was handled by the facilities of the Western Data Processing Center, Graduate School of Business Administration, U.C.L.A. Our appreciation for their aid is extended to WDPC and Kendall R. Wright, Chief of Machine Operations.



od derives from the quantified data obtained. Common shortcomings in students' clinical skills can later be explicitly specified by factor analysis of their evaluations and then used to direct subsequent teaching. The quantified data also present avenues for the investigation (with regard to both process and outcome) of evaluational skills in students, experts, residents, patients, and lay persons.

It should be noted that the present assessment method is, with modification, potentially applicable to teaching, evaluative, and research problems in medical fields other than psychiatry. The filmed interview can be replaced by visual, auditory, or tactual stimuli to which clinical judgments are applied. The rating of responses on a seven-point scale is well adapted to the expression of clinical judgment in which discrete factors can be interrelated by differentially weighting their importance or relevance. It is hoped that other investigators will find further use for this type of method in their fields of interest.

#### SUMMARY

There is need for the development of appropriate, unbiased, and objective methods of assessing the clinical judgment of medical students in psychiatry. The method described was used to construct a final examination in psychiatry and represents an

approach to the general problem of assessing clinical judgment. Two spontaneous psychiatric interviews of emotionally ill patients were filmed. Students' instructors in psychiatry made clinical evaluations of the patients by assigning ratings to a large number of evaluative statements commonly used in describing psychiatric patients. Only those statements on which the instructors showed a high degree of agreement were subsequently used for the final examination. An average of instructors' ratings on the statements used for the final examination established criterion evaluations against which to measure the "correctness" of each student's evaluations of the patients. For their final examination, students viewed the filmed interviews and evaluated the patients with the preselected descriptive statements. Their evaluations were then electronically correlated with the appropriate criterion evaluations, yielding a precise measurement of the extent to which each student agreed with his instructors in evaluating the patient in question. This method provides uniform examination conditions and an objective, uniform criterion with which to assess clinical judgment. Although this method cannot be assumed to assess the ability to interview or "relate" to patients, its direct relevance to clinical judgment should make it useful for assessment, teaching, and research problems in psychiatry and other medical areas.



# The Teaching of Pulmonary Diseases in American Medical Schools: Report of a Survey

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In 1957, a survey was conducted among U.S. medical schools to determine the facts regarding pulmonary disease teaching in this country. Seventy-two schools filled in and returned an appraisal form which had been approved by the Association of American Medical Colleges. The survey was carried out by the Division of Medical Education of the American Trudeau Society (ATS), the Medical Section of the National Tuberculosis Association. Recognizing that a well informed profession is essential to tuberculosis control, the ATS has had a long-standing interest in this segment of medical education. Both directly and through its state and local affiliates, many thousands of dollars have been contributed to teaching salaries and teaching fellowships in the field of pulmonary disease.

## OBJECTIVE

The first concern has been not to train specialists but to encourage medical schools in offering a coordinated program of instruction, covering the major aspects of this important field: to provide the graduate with enough basic knowledge for general practice. One can quickly identify the basic science departments such as anatomy, physiology, bacteriology, pathology, and phar-

macology which are concerned with pulmonary disease teaching. In addition, the usual clinical areas including medicine, surgery, radiology, and physical diagnosis are obvious participants.

## THE SIZE OF THE PROBLEM IN HUMAN ILLNESS

Tuberculosis is still a major problem in the U.S., although today less often a cause of death. A third of the population still carry virulent tubercle bacilli in their bodies. It is from this group that most new cases are derived and will continue to come for several decades. In 1957 there were 87,583 new cases of tuberculosis reported.<sup>1</sup>

As the TB problem is reduced, other pulmonary diseases are assuming greater significance. Aging of the population, the evolution of new medical knowledge, and conditions associated with inhalation of air pollutants are important recent factors adding to the breadth of this field. Common causes of illness, disability, and death include bronchial and pulmonary neoplasms, chronic bronchitis and emphysema, acute respiratory diseases, fungus diseases, conditions associated with industrial inhalants, and a variety of pulmonary manifestations of systemic diseases. Even in the field of pediatrics there is increasing recognition of previously obscure pulmonary diseases.

Since upper respiratory infections are frequent progenitors of disease of the lower respiratory tract, it seems logical to group them together in studying the results of

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<sup>1</sup> U.S.P.H.S. preliminary figures, May, 1958.



illness surveys. Indeed, this is commonly done in the surveys themselves, since the physician often cannot classify these conditions exactly.

Crude death rates (1) in the U.S. for 1950 revealed that 8.3 per cent of all deaths were caused by diseases of the respiratory system (including tuberculosis and carcinoma). From 1953 through 1955 such respiratory diseases caused an average of 126,000 deaths, making them fourth among all causes of death in the U.S.A.<sup>2</sup>

In "An Analytical Study of North Carolina General Practice 1953-1954" (2), it was found that 18 per cent of all visits to the practitioner's office were by patients treated for respiratory diseases of all types. Of this number a little more than half were diagnosed as having upper respiratory infections. "The second most frequent demand upon the doctor's time was made by pregnancy and attendant problems." These accounted for about 10.3 per cent of patient visits, whereas "injuries of all types were next in frequency and accounted for almost 9% of patient visits."

The State of Washington Sickness Survey (3) conducted in 1953 involved reports from one third of the state's physicians in practice. These men reported 73,188 patient visits on 4 typical days. The following quotations and facts are given: "Respiratory illness, including colds, influenza, bronchitis and pneumonia, is the most frequently reported sickness, holding a high rank in the spring and summer months as well as the fall and winter months. Accidental injuries are the next-ranking reason for visiting a doctor." In the same report is a tabulation of six previous surveys of medical practice. In each survey, among "Diagnosis Categories," respiratory diseases ranked first in frequency of reporting. Altogether, the record provides undisputed evidence of the great significance of respiratory diseases in the total problem of human illness. The purpose of the present survey is to determine how educational needs in this field are being met by American medical schools.

<sup>2</sup> NTA figures, Oct., 1957.

#### RESULTS OF SURVEY

Replies were received from 69 four-year medical schools and 3 two-year schools out of a total of 80 questionnaires sent out.

**Organization.**—Questions were asked about the existence of separate divisions of pulmonary diseases and thoracic surgery, not to advocate such separate subdivisions of major departments, but to determine their general use and to learn why they were not used when that was the case. Good chest teaching can be done without such divisions, but their existence suggests that serious teaching efforts are being made.

Thirty-five (of 69) medical schools have both divisions of pulmonary diseases and thoracic surgery; 45 have the former, and 36 the latter; seventeen schools have neither. In most instances when a reason was given for having no division of pulmonary diseases it was indicated that such subdivisions were against the policy of the school or department concerned. Only one school gave the lack of a qualified teacher as the reason for having no such division in either medicine or surgery.

**Facilities.**—48 of the schools had teaching facilities including a chest clinic or tuberculosis clinic, a tuberculosis ward, and a pulmonary physiology laboratory as well as chest cases on the general medical and surgical wards. One school used only a tuberculosis ward and two schools only their general wards for teaching pulmonary diseases. Facilities for teaching pulmonary diseases are available, therefore, at or near most medical schools.

**Curriculum.**—It is difficult to reduce the total amount of time devoted to pulmonary diseases to a simple quantitative statement of hours. Probably such an estimate is not so important as the quality of the instruction and the interest aroused in the subject.

**Physical diagnosis** introduces most students to the chest and its contents, both normal and abnormal. This subject is given in from 0 to 36 hours of lectures (median 7), from 0 to 60 hours of practice on normal chests (median 7), and from 0 to 96 hours of practice on patients (median 18).



*Clinical instruction* on the wards or in clinics ranges from 0 to 126 hours in the third year (average 41 hours) and from 10 to 128 hours in the fourth year (average 42 hours). There are clinical clerkships on a chest disease service in 38 of the 69 medical schools replying.

An effort is being made to correlate the teaching of pulmonary diseases between departments in 58 of these schools. Today this most frequently takes the form of a weekly chest conference in which internists, thoracic surgeons, radiologists, and others including the resident staff take part. Such conferences are now held in all but six of the four-year schools reporting. They are used for teaching juniors at 36 schools and

x-ray studies to screen out cases of active tuberculosis from the general wards.

Medical students themselves have chest x-rays at 69 of 71 schools answering this question (six on matriculation only, 41 annually and 22 every 6 months). They are tuberculin-tested at all but seven schools replying (twelve on matriculation, 39 annually, and twelve more often). BCG vaccination is offered to the students with negative reaction to tuberculin at 35 of the 69 schools replying.

#### COMPARISON WITH PREVIOUS SURVEY OF 1953

Forty-four (44) schools answered many of the same questions about education in pulmonary diseases in both 1953 and 1957 to

TABLE 1  
FOUR-YEAR COMPARISON—44 MEDICAL SCHOOLS

	1953 total	No. dropped	No. added	1957 total
Division of pulmonary diseases	26	1	5	30
Weekly chest conferences	32	0	8	40
Clinical clerkship in chest diseases	19	3	10	26
Chest x-rays of hospital admissions*	25	4	7	28
Chest x-rays of medical students*	39	0	0	39
Tuberculin testing of medical students*	36	2	1	35
BCG vaccination of medical students*	22	3	6	25

\* No reply in 1953 from five of 44 schools.

for seniors at 48; medical students are not invited to existing conferences at five schools.

*Quality of instruction.*—The respondent was asked to give his personal evaluation of the teaching of pulmonary diseases in the various departments involved at his schools. Naturally such opinions are a reflection of his own attitudes, as well as his relationship with other departments, and cannot be reduced to enumeration. The replies did indicate that the weak points might be found most often in the teaching of laboratory diagnosis and the public health aspects of pulmonary diseases.

*Student health.*—It was felt that the measures taken to protect the medical students from tuberculous infection might furnish an index to the interest in tuberculosis and its teaching. At 51 of 69 schools patients admitted to the teaching hospital have chest

furnish a basis for an estimation of changes in this field of instruction (Table 1).

The trends seem to be toward more teaching of pulmonary diseases but a more equivocal interest in the protection of the students against tuberculosis.

#### DISCUSSION

The day of overemphasis on individual diseases such as syphilis or tuberculosis in the medical curriculum is past. Fortunately, the control of these great plagues is now within our grasp. Moreover, the contest for hours of instruction between various subspecialties in medicine and surgery becomes pointless, if we have agreed that medical undergraduate education is to furnish students with a broad and generalized base of knowledge upon which graduate or post-



graduate education can train specialists or family physicians.

The medical field of pulmonary diseases, as distinguished from phthysiology, is coming of age along with thoracic surgery. It involves multiple disciplines including medicine, thoracic surgery, bronchoscopy, anesthesiology, pediatrics, physical medicine, bacteriology, pathology, and preventive medicine. To correlate the teaching applicable to this field and to impart to the students a spark of interest as well as knowledge there should be someone in each medical school well qualified to instruct and to inspire. At the graduate level, fellowships give training to teachers, investigators, the young men and women dedicated to the academic life, who will be in increasing demand for the facilities of our expanding medical schools.

This survey, when compared with a similar one made only 4 years earlier, shows a growing recognition of the place of the respiratory disease field in the medical school curriculums. There is evidence, on the other hand, that some schools have inadequate

time, facilities, and faculty devoted to this large segment of medical practice.

Increasingly available are enthusiastic teachers with a good background in internal medicine and respiratory disease. Such an individual is needed in each medical center to plan and coordinate the activities of the several departments which contribute to the program, to develop multi-discipline "Chest Conferences" where faculty members, residents, and students come together, and to encourage the growth of cardio-pulmonary laboratories.

A broadening of viewpoint to include all respiratory diseases will result in better preparation of the family physician for the problems of diagnosis and treatment which he will face daily in practice.

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# A Model Eye for the Student Laboratory

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Difficulty has been experienced in adequately and easily demonstrating the refractive properties of lenses, in particular those of the astigmatic lens. The model eye (Chart 1) effectively demonstrates in a three-dimensional fashion these properties, as well as the more common refractive errors in the optics of the eye and the correction of these errors with external lenses.

an indicator for measuring image distance on a scale etched into the side of the tank. Positions of the screen for emmetropic, myopic, and hypermetropic conditions are included on the scale.

The tank contains water to which a few drops of 2 per cent fluorescein solution are added. A collimated beam of light passing through this solution, when viewed in a

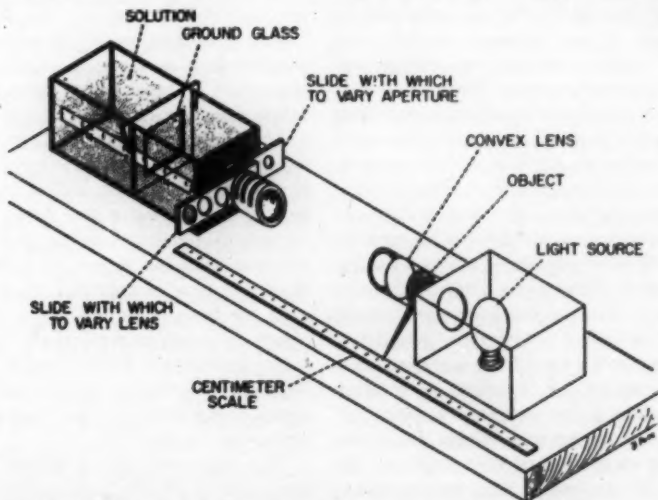


CHART 1.—The model eye and light source as used in a laboratory exercise

The model consists of a plastic tank approximately  $10 \times 10 \times 30$  cm. A slide containing spherical, cylindrical, and astigmatic lenses; a slide containing different size apertures; and a holder for adding external lenses are mounted on one end. Inside the tank is a ground-glass screen, representing the retina, for viewing image formation. The handle of the screen forms

dimly lighted room, has the appearance of a green rod suspended in the tank. The cones and wedges produced by spherical and cylindrical lenses are presented in the same manner. When viewed alternately from two planes  $90^\circ$  apart, i.e., from the side and then the top, the two different focal points of an astigmatic lens are demonstrated.

A light source with a collimating lens and an object for image formation may be used in conjunction with the model.

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## The Functions and Problems of an Adviser System in a Medical School

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A reasonable understanding of adviser systems should start with the assumption that all medical schools have adviser systems in one form or another. These may be simply educative, fact-giving for such matters as internships, or may attempt to deal with the basic student-teacher relationships and its emotional components. However, the effort being expended at the present time suggests that a suspicion has arisen that the systems are inadequate in various ways. First, the basic educative functions of leading, guiding, helping, and giving advice are under the suspicion of failing with medical students. The very nature of school teaching demands that these educative functions be carried out. Many of us, I presume, would not be in the field of teaching if unconsciously, at least, we did not have a strong need to be giving advice. Leading or guiding students along paths we ourselves have followed and opening new vistas for them is another expression of that need on our part. Again, it appears that we are questioning the adequacy of these efforts. Secondly, we are questioning even our abilities in the field of making recommendations—not just in the broad areas of student choices, but in more specific areas such as the choice of internship. Thirdly, we are questioning the adequacy of basic student-teacher relations and their affective components. These are reasonable questions, and there are means of deepening our understanding of these within the available techniques of medicine and the medical school.

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Deans and other administrators are familiar with reasons leading to the state of affairs whereby we can question this function. Medical schools are victimized by class size, multiple duties and functions of the faculty members, and by massive curricular requirements as far as a student's time is concerned. In this situation perhaps a number of solutions are suggested. One is the apparently simple expedient of introducing outside "experts" as advisers in medical schools. However, this method suffers from the defect of the advisers not being our own, necessarily being unfamiliar with the basic hopes and dreams of medical students. Further, this type of approach would interfere with the basic identification which we attempt to obtain in medical students. When major expressions of the breakdown of student-teacher relations such as emotional illnesses occur we surely look within our own profession for therapy.

The statement which follows is an examination of the dynamics of the teaching situation in a medical school and how this relates to being an adviser, the problems of more formal adviser systems, and, finally, the relation of these problems to the more complex emotional breakdowns which occur in medical students.

Fundamentally, then, the guilt we feel about our neglect of school teaching functions leads some persons to hope to be able to discharge their responsibility for these by calling in "experts" to do it for them. Others perhaps hope to be able, by the construction of some "system," to have these functions automatically taken care of. An



understanding of the basic student-teacher relation remains the core of the construction of such a system. Further, we should examine the available routes to improve the use of that relationship before we embark on systematized attempts to exploit it. As an introduction to a study of the student-teacher relations we should attempt to define what we consider a medical student to be. It is interesting that the general attitude in medicine seems to place the medical student somewhere between undergraduate and graduate status—and, alternately, to put him first in one then the other. At times he is expected to behave like a late or just post-teenager, at other times expected to behave like an adult. Perhaps there is some reality in this—but too often this expresses the needs of the faculty and little more. I suggest looking on him as more adult, more informed, and more sophisticated than all too often is done.

What is the special area of the medical student? Certainly the idea of the medical student as a biologist is tightly woven into our premedical and our medical curricula. Prior to medical school, he is expected to have mastered fundamental concepts which have to do with living matter. At the present time he is perhaps expected also to be a chemist of sorts. As a student he is like other students, but different too. He has different problems, a different intellectual area to master, and an altogether different affective area. His special problems can be listed as masses, if not depth of material to be mastered, involvement of relatively large amounts of time simply being in class, the shock of having generally a higher competitive level to meet, learning to deal with death in the form of cadavers, and developing defenses against the powerful imagery of mutilation.<sup>1</sup> At the same time he is in the position of having to postpone his dreams of treating patients for an additional period. Under these circumstances

it is not unusual for the educative process to be interfered with.

With this in mind we should examine what goes on in the teaching process. The very nature of the best teaching in our culture involves the assumption that students are in need of help and that the teacher is willing to give that help. The student's needs are great—not any less for the fact that he has reached the advanced status of the medical school. Simply, these needs are more complex, more intellectualized, and generally much less openly expressed. As a matter of fact, it is the nature of such needs to be met by strong counterforces operating to hide these from the teacher. The nature of these counterforces should be examined if one is properly to carry out the function of counselor.

A powerful force one consistently sees operating in students is the fear of exploitation. Often a superficial statement of this is "leave me alone." The exploitative fear shows itself in a fear that their needs will be taken advantage of or that they will be sneered at. Students are ashamed to ask for help. This shame inherent in the maturation process can be further stimulated by either the instructors or by pressure of fellow students. All forms and degrees of this can attach to seeking advice. Sometimes it is expressed more openly as embarrassment, perhaps accompanied by the visceral evidences of that affect. At times the individual hides this shame under the cloak of an over-reactive competitiveness, announcing by word and behavior to all around him that he "will do it on his own." At the same time, the seeking of advice stirs in the other students all the competitive urges which have operated in bringing them this far on the educative ladder. This competitiveness results in all degrees and forms of reaction against fellow students who attempt to win the competitive battle by asking help from teachers. There are always some students who see this asking of help as wooing the teacher and, from their self-established heights, look down on these "apple polishers." Simultaneously, the

<sup>1</sup> See B. D. Lewin: Counter-transference in the Technique of Medical Practice. *Psychosomatic Med.*, 8:195-99, 1946.



hostile elements in the competitiveness result in interfering feelings of guilt in many.

Since instructors are also human, they tend to have the same feelings about those who ask help as the students do. Some instructors will tend to ward off attempts at help as expressive of the infantile. Others will look on the need for help as a demand on their own precious time. Hopefully, the good school teachers will be willing to help without leaving the impression they are losing their heart's blood. Also, they will be able simultaneously to help and to assuage the feelings of the student who asks help.

In all class groups, certain "ground rules" are worked out by the students. These come to constitute a force defining how much help a student can ask from instructors without fear of censure from his peers or the instructors. These "rules" effectively in many cases block communication between student and teacher. The question, then, of how "easy" it is for students to get acquainted with faculty is one which is based on a multiplicity of factors. One would hope that there is a certain heterogeneity among both faculty members and students. The individual ease of communication would then be reasonably variable. However, certain schools do establish a "climate" in this regard, based on their own traditions. Changing such a tradition, if it seems to be the judgment of the administration that it needs to be changed, might be accomplished by the "shock" value of the introduction of a formalized adviser system. However, just the opposite result of fixation of attitudes could be the result. Thus, when and if a school embarks on a formal adviser program, it is legitimate to hope that this program will be so constructed that the rigidity of the ground rules mentioned above can be circumvented and that the end-result will not be a mobilization of forces to protect the "status quo."

This formal advisory system with its variations is a way of trying to cope with the problem of meeting the students' needs. An adviser system must be only a part

of the total educative process, since it cannot stand apart and alone as a method of absolving teachers from their primary functions. To be worthwhile, it must take into account the unconscious needs felt by all students and offer additional means of resolving these conflicts. Only with this firmly in mind can we examine specific forms and methods of the advisory system, for these various forms introduce both variants of the basic difficulties of education and subsidiary conflicts resulting from making this process more complex. Simply by designating in one fashion or another some man as adviser does not do away with the need to recognize the inherent conflicts between authority and those who are to be managed. One should remember it can well be the same human beings now formally designated "advisers" who were previously "just" teachers. Parenthetically, it would seem that any system set up which utilized only one of the faculty segments, either full or part-time, pre-clinical or clinical, would run the major risk of constricting the students' horizons. I would see such a system carried out in its totality as falling on its own dead weight. Practically speaking, students have few usefully effective ways of resisting administrative pressure, but here I think this resistance might take the simple expedient of being contemptuous.

There is an inevitable tendency, however, in faculties as corporate bodies as well as faculty members as individuals to wish for a simple way of resolving the hard core of conflict which the students present. Unquestionably the needs of the students raise anxiety and concomitant guilt in the faculty. It, in its turn, then seems to need rules, and these rules most often come to mean "precise" details such as how many students am I adviser to, how often do I see them, for how long a time. As soon as elements of rigidity enter, the situation will become automatic, no exchange will take place, the student will not use the advisory system for advice. Actually, failure of education is only compounded under these circumstances.



However, before examining the more "precise" details of how a guidance program will work, one fact needs to be mentioned. Without the introduction of a formal adviser system and depending on well established educational techniques, many of the reasonable aims of guidance can be accomplished. The use of seminars and seminar type teaching strongly suggests itself for this end. Small groups can promote freedom of discussion, with guidance coming from both the instructor and peers. Relationships can be set up which foster greater social as well as academic communication. Misknowledge, prejudice, and dogmatism have a greater opportunity to come to the foreground and be dealt with. Encouragement at a personal level can often be more easily accomplished. Perhaps some areas of knowledge lend themselves more readily to this type of teaching, but there would seem to be value from this in almost any field. Again, before discussing the systematic variants which are available, we should consider broadly what we aim for.

The basic methodology of an adviser system attempts to take advantage of the fundamental psychologic mechanism of identification. We express this in various ways. Some say something from the adviser "will rub off on the student." Some hope the student will "learn the ways" of the adviser. Some look to a magical inculcation of the adviser's prowess. It is a fundamental fact of interpersonal relations that, given enough contact between two people—or here, specifically, a relation of master and pupil (adviser and student)—there will be a tendency for each to become like the other. We consciously hope it will be the student becoming like the adviser.

Perhaps at this point it might be wise to point out one or two of the obvious inherent defects of this kind of relationship. Possibly there are people who will be doing the advising whom we don't want our students to be like. On the other hand, there are those who, either for reasons of their own basic narcissism or from fear of losing something valuable from themselves, so dis-

tance themselves from those they "advise" that they drive the students in a direction of revolt and precisely in the opposite direction from that desired.

The systematic variants which are available in setting up an adviser system to some extent reveal the basic nature of multiple conflicts that are involved in the system itself. For example, the poles of forcing the student to be advised as against no advice have already been pointed out as a major conflict. There is recognition of the fact that some will be very needful of this kind of relationship, others will not. A similar type of problem is raised if one considers how frequently student and adviser should meet. Above and beyond the time-involvements and manipulations and hoped-for benefit of both adviser and student operate such things as quality and type of person on each side, desire on each side, need—especially on the side of the student, and resistance to interference on the part of the student.

The choosing of advisers again offers two poles. One lies in the administration by fiat, telling members of the faculty they *will be* advisers. The other pole is allowing the matter to be one of volunteers. Advantages can be seen in both methods. Volunteers, especially, would seem to offer more in the way of dedicated interest. Choice by fiat would seem to run the risk of calculated disinterest. However, certain men who would not volunteer may find in such an assignment just the kind of challenge they need for increased interest in the whole field of teaching. On the other hand, volunteers may be too "dedicated"—fixed in their ideas, over-intrusive, over-impressed with their own importance. It would seem this situation is one very common to the whole administration of a medical school. This is one which a Dean should be able to solve from his knowledge of his own faculty—urging the skilled, timid ones; utilizing the over-conscientious ones in other ways.

In the matter of the length of time for which a student should have the same adviser, once more two poles are represented.



On the one pole lies the opinion that it should be continuous for 4 years. Supporting this opinion are factors of unitary identification rather than diffuse identification, greater mutual knowledge between adviser and student, and possibly greater freedom of communication. Supporting the opposite pole of changes in advisers is the fact that unitary identification can be damaging, greater mutual dislike can arise, communication failures remain fixed. On the positive side there is something to be said for greater freedom of choice on the part of the individual student.

One method employed is to have a different adviser for the preclinical and the clinical years. This common resolution recognizes an apparently inherent division between the preclinical and clinical studies. If the faculty is interested in minimizing this division between the clinical and preclinical, it would be wise to assign one adviser. However, if the attitude of division is already in the school and in the individual advisers, one can hardly see how a device of this kind can have influence. The faculty must be selfconsciously analytical about the meaningfulness of an adviser's functions, whatever the form used.

Another method which has been suggested is one where senior students advise freshman students. This is based on the assumption that "big brothers" are probably a good thing. Such a system has all the advantages as well as the disadvantages of big brothers. They can represent solid guide posts, muters of anxiety, purveyors of needed social information—advice on how to "handle the faculty" or a particular faculty member; but, conversely, they can also represent multiple shifting points of view, stirrers of anxiety, purveyors of "grape vine" distortions, advice on how to mishandle a faculty or a particular faculty member. In any case, self-appointed advisers of this kind are inevitably present. Perhaps the process should not be institutionalized.

The question whether an adviser should have disciplinary function is another problem which may arise. The administrative

variants for handling this problem are no discipline, only advice, part discipline-part advice. The easiest solution of this matter is one which makes the student-adviser relation the same as the doctor-patient relation. This relation should be so constructed that neither disciplinary nor privileged communications problems come up, or if they do, the adviser's position should always clearly be on the side of extreme confidentiality. As far as the few persons who inevitably act between student and administration are concerned, questions should be solved exactly the same as in private practice. The legal and ethical position is one which cannot be escaped. Considerable experience as the psychiatrist in charge of treatment of emotionally suffering medical students points up this fact. Students cannot put their trust in someone who literally stands for the school. That many will unconsciously feel that this is the psychiatrist's position is true. However, if it is really so, then multiple opportunities for treatment and simple resolutions of difficulties are lost. This model of confidentiality should extend through the adviser system.

The position of combining administration of discipline and academic warning with the giving of advice is inherently the most difficult for the person doing it and the most anxiety-provoking for the student. Its cost is a high one in the energy involved. Since we rarely find more than two or three men on a faculty able and willing to combine these functions, usually one of them is picked for a position such as assistant dean, and all functions which simultaneously carry out the tasks of discipline and giving advice are channeled to him. This man, when discipline or the problems of academic success lie on one side and being helpful on the other, must constantly be torn. His difficulties are all too often the difficulties of both functions simultaneously. However, the position is one which can be made to work, given willingness on the part of this man and the one or two others who should be involved. For these, most necessary are: a position in a department recog-



nized throughout the school as helpful, professional identification as one skilled in human relations, identification as one who helps those who suffer. The necessary judgments, then, are those which are a part of his professional equipment.

A general example will illustrate how the problem can be handled. In circumstances where the matter is one of diagnosis for the protection of the school, the community, or the student, then an administrative report can be made. The adviser in an adviser system should not have to make such decisions. The position of the psychiatrist should be one of giving a medical diagnostic opinion—the personal data on which this is based need not be revealed. If the matter then becomes one of treatment, some other psychiatrist should undertake the task.

There has been an attempt in the previous remarks to high-light considerations of education in relation to an adviser system. Medical education, like all other education, involves more than the simply academic. Other needs of the student must be met, and we have considered the adviser system as brought into being to enrich and enlarge academic results. However, we have seen also that almost inevitably it is utilized as a means of meeting emotional needs. When this occurs, the reasonably perceptive advisers must see that the question of pathological emotional disturbances will arise. Though one of the functions of an adviser system is prevention of emotional disturbance, it certainly cannot be always effective. Medical students are subject, as other people, to outbreaks of the common neuroses, and they are under constant pressures which a "guidance" program as discussed here may perhaps alleviate but will never solve. The superficial points at which alleviation of tensions may occur were grossly indicated in the questionnaire which the A.A.M.C. prepared last year for students to fill in. It should be pointed out, however, the frequency with which complaints in the

fractionated areas covered simply hide the more basic conflicts which interfere with the student's abilities to learn. This makes it necessary to discuss briefly those instances when professional therapeutic intervention is required. For the inevitable appearances of pathological anxiety, depression, and characterological involvement in their career choice, competent professional care must be available. Naturally, the choice of therapist is an individual's prerogative, but generally medical students will naturally turn in the direction of their own department of psychiatry. There should be a ready means and method available for the Dean's office and the faculty to recommend a psychiatrist to the ill medical student. In general, two methods of handling this are available. (a) The formal appointment of a psychiatrist to the health service; (b) the designation of a member of the psychiatric teaching staff to act in this capacity, at least to the extent of being a clearance agent for diagnosing, recommending, or discouraging treatment, and finding proper therapeutic help. Day-in, day-out availability of such service is a preventive measure as well as a therapeutic one.

In summary, the dynamic forces of the educative process in a medical school, both as these relate to dealing with knowledge and as they relate to the emotional bonds between student and teacher, are not always simple to handle. However, knowledge of these forces and a constant alertness to them on the part of faculty members will pay dividends in helping the medical student learn. A formal adviser system can offer advantages in meeting the emotional needs of a student; but the variations of any system chosen must be constantly and self-critically examined and conflictual poles of the variants kept in mind. Finally, the fact of our failure to meet students' needs leads, in some students, to the development of emotional illness. The care of these illnesses needs to be at the highest professional level.



# MEDICAL EDUCATION FORUM

## Editorial

### HANDS ACROSS THE SEA

During the last 35 years the United States has been most active in the study and development of medical education. A variety of factors has contributed to this pleasant situation. The Dark Ages of United States medical education encompassed the nineteenth and early twentieth century. A small yet articulate group of medical educators expressed their concern over the sorry plight of the majority of the medical schools. The Flexner report, solicited by this group, opened the doors of the medical schools for continuing professional and public scrutiny. The great developments in medical research have provoked a comparable development in medical education.

Yet we must bear in mind that the historical development of medical education has been a wave that rolled across Europe to rest for a while on the North American continent. In many respects, our medical education is a synthesis of developments in other countries. The basic science laboratories of Germany and the clinical clerkships in the United Kingdom have played important roles. Now another wave is mounting in the United Kingdom and it will soon be felt on our shores.

A few of us were privileged to participate in the first Conference of the British Association for the Study of Medical Education which was held in London on September 25 and 26, 1958. We were impressed by the stimulating investigations in medical education that are underway in the United Kingdom. The medical curriculum, the examination system, and the characteristics of medical students were reported and discussed in a manner that was most impressive. The number of first-rate physicians who are digging into problems of medical education suggests that we stand to learn a great deal from our friends in the United Kingdom. Sir Russell Brain and Professors Robert Platt, Ian McCrie, and John Ellis are among the individuals who are playing vital roles in this development. The Royal College of Physicians sponsored the initial developments.

There are aspects of medical education in Britain which are exemplary. The Honors B.Sc. degree at Oxford and the "tripos" at Cambridge are not excelled for education in the basic medical sciences. The medical schools of the London hospitals have a long tradition of sound training through clinical clerkships. The provincial medical schools have strong University relationships and are quite different from the London schools.

Let us not forget that developments in other countries can make important contributions to the advance of medical education in the United States. Thus, the establishment of A.S.M.E. is a milestone for education in the U.S.A. as well as the U.K.

We wish A.S.M.E. well! The words of Arthur Clough might be applied to this development as—"but eastward look the land is bright!"

JOHN Z. BOWERS, M.D.



## Addresses

### SCIENCE AND THE ARTS IN A CHANGING WORLD\*

WILDER PENFIELD, M.D.†

*Mr. President, Distinguished Scholars of 1958:*

This calling together of the honored graduands, this convocation, is a time you will never forget. It is a time, for each of you, to view his life in long perspective, as though he stood on some sunny Wisconsin hilltop, looking back in the stillness of noon, back at youth and the struggles and pleasures of college life, a time to plan the future too.

You will forget my words, remembering your thinking. "A teacher," to quote the Lebanese poet, Kahlil Gibran, "A teacher does not bid you enter the house of his wisdom, but rather leads you to the threshold of your own mind."

I have been called to this convocation the same as you and even President Fred is here today for his reward. Among us, he is *primus inter pares*.

We know, you and I, that a University degree does not certify that a man is educated or that he ever will be. Education is a way of life. Some enter it. Others never discover it. A diploma is a signal, a pistol shot announcing that the race is on again.

I, too, can look back on a morning of life in Wisconsin, and I do so now with nostalgia. But the life that I recall is not quite the life that you have known. I remember wearing shoe packs in the snow, running after bobsleds, "hooking rides" and hearing the lovely jangle of the bells on sleigh and galloping horse, magic music in the clear cold air. In the summer it was trotting horses that whirled the cabs (we called them hacks) to meet the train at Hudson station. And then, one spring, a neighbor drove a horseless carriage onto the lawn of the house across the way. I watched, wide-eyed with wonder, as he climbed down, proudly, from the door at the rear end of the car. I saw him stand there in his linen dust coat, doffing his cap and goggles, nonchalant, triumphant.

We were standing, he and I, at the beginning of the automotive era. Today, you and I are standing at the start of an era of change. Call it the atomic age if you like. We must search in our time for the truth that may save this changing world. Truth in the end is the purpose of God, truth and wisdom.

Three times I have had the honor of addressing the undergraduates of this University. The first time, my topic was the Surgery of the Brain; the second, Brain Physiology. And today, I come to Honors Convocation to talk of the Arts and of Science.

These topics represent phases in the evolution of my own interest. From specialization, I have come, you see, to generalization. But I make no apology for specialization. All men involved in higher education today must be specialists in one sense or another. This is a specialist's world, but we must learn to make common cause for the general good.

The Phi Beta Kappa Society, whose awe-inspiring key of gold glitters on so many

\* Honors Convocation Address, University of Wisconsin, Madison, June 15, 1958.

† Director, Montreal Neurological Inst.



professorial abdomens, is the National Honor Society for Liberal Arts. The Phi Beta Kappa has extended the definition of liberal arts so as to include among the arts, Medicine and Law, Engineering and Agriculture, as well as the literature, language and history, of *Belles Lettres*.

This is as it should be, for they are all arts. Each has its technique, its advancing body of knowledge, but each has also a purpose, and, in that purpose, there are eternal values for society.

Medicine has its basic science and its applied science, but beyond that there is the standard of honor expressed in the Hippocratic Oath and devotion to the relief of suffering. Men should make each of the other arts a double profession too. In each there are skills to yield a man his living. But there is also the call to create a better art and to use it in the service of mankind. This applies to Law and Commerce, to Education, Engineering, Journalism. It applies to Chemistry and Nursing, and, yes, to Home Economics and Agriculture, too. It could apply, in a very special sense, to Home Economics.

Thus I say that for each of the arts there is a purpose beyond the skill, and in that purpose there are eternal values for society.

You will carry away warm memories of the sights and sounds of student years, the social life of the campus, the athletic prowess of famous teams, the friendships formed in common projects. These things play an important role in college life. But they have little to do with academic life.

They constitute the background of academic life. They set the academic stage for the actors who come, and strut, and take their bows; then doff their caps and gowns and step aside. Those who understood the play and perceived the meaning of the lines they learned, will leave their college life behind them, but academic life will go with them and grow in them, all through their lives.

There are other agencies that educate without granting degrees. Many college graduates have sufficient humility to realize that they are suffering from a poverty of general interests and from a spreading disease called shallowness of conversation. They may be painfully aware of these things when they come to associate with those whose education began at home and was carried on through intelligent contacts and conversation, reading, travel, the use of foreign languages for speech with foreign peoples. If you are aware of this, then lay your plan. It is not too late to make use of these other agencies.

The university offers one approach to higher education. It presents opportunities, teaches essential techniques, opens windows to the man or woman who will look out. But education itself is the product of each man's total experience and continuing effort. It should begin at home. It should not be interrupted by graduation, and certainly it need not stop at retirement.

The work of our best universities is equal to that in any land. But the level of our general culture is often sadly low. The arts flourish in college halls and wither in the light of common living. Today as you sit on this hill top, look back at youth and at college life, and think of the years ahead.

When our forebears came to this continent, they were strong, bold, resourceful men and women. They had to be, in order to triumph in their stern struggle through the wilderness. They handed down sterling qualities to their sons, who prospered in time and were pleased with life. But something was lost, unnoticed, in the process. It was something gentle, leisurely, thoughtful, lovely,—something that a school's synthetic culture cannot quite give back.



The farmer and the city dweller had followed the "explorer" as in Kipling's poem of that name. They had built themselves a shining empire "where the trails run out and stop." But the explorer's work is not completed. The "everlasting whisper" is everywhere in the land for those who will listen. It is forever repeating, in Kipling's words: "Something hidden. Go and find it. Go and look behind the ranges . . . Something lost behind the ranges. Lost and waiting for you. Go!"

Men make fun of academic exercise, especially here in North America. They laugh and call us "egg heads." No one would call me Professor on this side of the Atlantic Ocean, if he should want to show me deference and respect. In European and Asian countries it is another matter. Here, Professor is often used as a term of ridicule. When the cap and gown are seen, except at graduation, they bring a laugh. They are worn by buffoons and nitwits in moving picture plots.

Perhaps the public attitude is best reflected in the fact that teachers are paid less than teamsters. And the Professor can hardly afford to educate his own children to follow in his footsteps. But the fault is, in part, our own. There is a vicious cycle in all this. We are too humble. We lack vision. The cycle of mediocrity might be broken by adequate public rewards or by more worthy performance on our part, or, better, by both.

Academic life grew strong in ancient Greece. There was keen competition among a hundred independent City States which led to superior performances and bred common admiration for excellence. They had a special word for this kind of excellence, *arête*, the very quality for which, today, your Greek-letter honor societies grant their golden keys. The ancient Greeks paid this tribute to *arête* whenever they saw it . . . in athletes, scholars, scientists, artists. They had an instinctive love of beauty and of temperance in all things. They gave no paralyzing cocktail parties, but they held gay symposia far into the night where wit and argument could be brilliant and sometimes creative.

If we, in the west, wish to see the dawn of an era of great leadership in the Arts and Sciences, we would do well to take note of what made the achievement of Classical Greece possible and which followed the dark ages.

In Greece there was freedom of thought and keen competition among many independent centers. The same conditions re-appeared in Northern Italy at the time of the Renaissance, when Florence and Padua, Siena, Venice, Bologna, Rome and other cities competed with such a haughty rivalry; and Leonardo, Raphael, Galileo, and a hundred other scholars and artists made their appearance, as though by magic. It was then that the Universities were born, in response to the widespread demand from students.

The greater a nation may grow, the greater is the threat of organized mediocrity. In intellectual life, competition is always good. It operates between student and student, school and school, culture and culture, and nation against nation.

What was Sputnik, the first man-made satellite, but a prize won in the open contest of the Geophysical Year? It should have called for hearty applause. Good sportsmanship is indispensable to peaceful co-existence. And yet the impact on parts of the Western world produced something akin to unsportsmanlike panic.

During the strange era of fear created in the United States by Joseph McCarthy and his senatorial associates, some excellent American scientists left the field of classified physics. But, more important than that, young physicists, whose names will never be known, must have been deterred from entering the field. They may have been men of great potential genius. For all I know, some of the cleverest young men in American universities have



continued to turn away from fields of study considered secret where they might expect to be subjected to future "witch-hunts."

It was certainly not the purpose of that political investigation to place the atomic or ballistic physics of the Soviet Union in the lead. It is almost laughable to suggest such a thing. And yet, I suspect, it worked in that direction.

International competition is good, and a fair proportion of defeats is healthy for investigators as well as athletes. Competition breathes in the very air that blows across the United States, and I predict that the first Sputnik will long be looked upon as a great blessing to education in this country, and in ours for that matter.

Leadership in science and the arts may be encouraged by emulation and freedom. Such leadership will not appear upon command nor yield to threats. Four conditions are pre-requisite to this: Freedom, competition, financial support, public approval. This is the atmosphere that will cause our native genius to put out green leaves, to bud and to flower in inspiration.

Soviet scientists and scholars are not ahead of us in all spheres of intellectual endeavor. Very far from it! I visited the Soviet Union during the war, in 1943 when German troops were 40 miles from Moscow. That was for the purpose of consultation in regard to military surgery. At that time the Soviet surgeons lagged behind the other warring powers in some respects. But they were doing one thing extremely well.

They sorted out the wounded soldiers more rapidly and placed them in special hospitals more quickly than on the other fronts—American, British or German. Russians have a genius for organization, and they had specialized their surgical treatment to a greater extent than had been done for the other armies. They are doing a similar thing in education now, starting specialization early, perhaps too early, as I shall point out.

I visited the U.S.S.R. again 2 years ago to lecture, on the invitation of the Soviet Academy of Sciences. I lectured on Brain Physiology, but I visited major universities and institutes, and if I may presume to pass judgement on their educational system, I would conclude that they are making the mistake of specializing too early. Thus, they may produce an expert technician. But I suspect that he would be lacking in versatility and resource, as compared with the specialist who had been educated first in languages, classics, philosophy.

The culture that comes from the quiet life of an educated household, rather than from the school, is often lacking in the U.S.S.R., as it is here. Culturally, they are in some ways even younger than we are, in spite of their ancient excellence in music, ballet, and literature.

But we are not concerned at present with the problems that face university graduates in the Soviet Union, however similar they may be to our own. Let us turn back to the practical consideration of our problems at home. You see, although I am a Canadian, I speak for Canada and the United States together. Actually the two countries are different, very different, in so many ways. But I have been discussing problems and defects that are common to both countries.

If the United States and Canada want resourceful chemists, physicists, physicians, engineers, economists, jurists and astronomers, and even statesmen, it is my opinion that they should be educated in the humanities before they finally specialize. Give them, above all, secondary languages and, with those languages, literature and history and basic mathematics.

Speaking to you as a Canadian citizen I can declare some truths that citizens of other



countries seem slow to express. We are well aware, and are grateful, that the United States blocks the path of those who might try to take freedom from her and from us. We realize that those who give and those who loan in this world must not expect to be thought virtuous on that account. They may well be disliked for their very generosity.

We in Canada ask no gifts from you. We are glad to stand beside you, admiring your strength. We understand your problems and your defects best, since so many of them are our own problems and defects. But we have, we like to think, some peculiar Canadian virtues. And we have our national pride that asks respect of all.

This is a time for understanding, a time to take stock of our failures and weaknesses. In this age of atomic change, we look to the same horizons, north and south of the long boundary line. The same Heaven arches over our heads.

I wonder if any of you heard the quiet voice of Queen Elizabeth as it came over the radio on Christmas morning 2 years ago.

"The Christmas message," she said, "is peace on earth, good will to men." She spoke with magnificent simplicity and I quote now only from rough notes made that morning in my living room. "The Christmas message," she said, "is indivisible. There can be no peace on earth, without good will to men. . . ." Then she continued, "Our new explorations are into new territories of scientific knowledge and into unknown regions of human behavior. . . . We must adventure on, if we are to make the world a better place."

The simplicity that breathed through her words was the simplicity of Christ. When one is tempted to think that the world is no better for Christ's coming, it is well to remember that such a message, and such thinking, is the direct result of His teaching.

The voice that came to us over the radio was not only the voice of the Queen of Canada. It was the voice of a woman, speaking for women everywhere. The Christian message is to all men. "There can be no peace on earth without good will to men." But "we must adventure on." We cannot turn back. We must not bow our heads, for that would bring defeat.

Instead we must seek a greater knowledge, each following the Art that he has made his own. Dedicate yourself to it. Through onward struggle you must come to greater understanding and so to a better religion, a religion of brotherly love that all the world can use.

In conclusion, I have led you "to the threshold of your own mind" during this interlude, this hill-top of retrospect and prospect. Each of you must draw his own plan for progressive education. Be a good specialist. Serve in your own art so that you may contribute to the eternal values that your art holds for the general good.

Medical scientists have no enmities, no hidden secrets. Neither have any who devote themselves to the Arts and Sciences alone. Let us compete, then, with might and main, man against man, college against college, nation against nation, seeking only the reward of excellence. Let us see the common goal and work in freedom for the common good.

To have peace on earth, there must be good will toward men. The Christian message is indivisible. Salvation for our society depends in no small degree on your ability to seek and to find the truth in the Arts, as well as in the Sciences. There is no time to lose. Go out then, to write a new gospel of human understanding and of brotherly love.

Something hidden. Go and find it. Go and  
look behind the ranges,  
Something lost behind the ranges. Lost and  
waiting for you. Go!



## Communications

### THE USE OF PRIVATE PATIENTS FOR DEMONSTRATING PSYCHIATRIC INTERVIEWING

Various ways of using private patients in undergraduate teaching programs now preoccupy some medical educators, as insurance plans are rapidly changing the patterns of medical care, and the "clinic" patients traditionally used for teaching material are, in some localities, gradually disappearing. In anticipation of possible future needs, a pilot study has recently been conducted by the Psychiatric Department of the Johns Hopkins University School of Medicine. Private out-patient care at the Johns Hopkins Hospital is centralized in the Private Patient Clinic. Many patients referred to the Private Patient Clinic for medical evaluation are, of course, referred for psychiatric consultation as part of their medical workup. In seventeen such consultations in the last 15 months, one or two second-year medical students were in attendance (31 students participated). The consultants were five senior staff psychiatrists, whose initial attitudes about seeing consultations in this manner ranged from histrionic enthusiasm to considerable concern about the intrusion of the students on the privacy of the interview. The type of patients ranged from those with minor psychophysiological reactions to overt psychotic disorders which required hospitalization. Interviewing techniques varied from detailed recording of life history to the apparently unstructured, but all, of course, were oriented to the appraisal of the personality functioning. The students were introduced as student doctors assisting the psychiatrist, and they sat in attendance in the immediate vicinity of the consultant and the patient during the entire interview.

In planning the pilot study, we elected to allow a maximum of two students for any one consultation because of space limitations and because we wanted to eliminate, in the discussion period following the patient's departure, social pressures which sometimes operate to inhibit spontaneous discussion in groups of more than two students. The generally increasing use of one-way glass observation rooms with electronic gadgetry for this type of teaching gave us pause about reverting to old-fashioned methods. Most interviewers initially had many reservations about the usefulness of such consultations to the patients and to the referring internists, and had planned to spend additional time alone with the patients to undo some of the harm.

To the surprise of the consultants, they found that, except for introducing the students and permitting them a few questions at the end of the consultation (which lasted about 90 minutes), the consultation proceeded exactly as it would have had the students been elsewhere, and no additional time was spent with the patients. They found that, in all of the consultations, a two-person situation prevailed, and the anticipated inhibition of both patient and psychiatrist did not develop. Moreover, the students were interested and animated in the discussion period after the patient left. We could not help but conclude that this method of demonstrating this type of interviewing was, from the student's point of view, greatly superior to the more remote, completely passive observation from an invisible room,



and that even the brief questioning of the patients permitted the students helped them to feel a part of the clinical investigation. We felt that this particular mode of teaching is apparently more useful for medical students just being introduced to clinical work and to interviewing techniques, although it could be adopted for teaching at other levels.

#### SUMMARY

1. A series of seventeen psychiatric consultations with private out-patients were conducted in the presence of one or two second-year medical students.
2. The consultations quickly became two-person situations, and the presence of the students did not grossly inhibit either the instructors or the patients in their customary transactions.
3. Such interviewing demonstrations seemed a more satisfactory experience for the students than if they had been observing from an invisible room.
4. Even in this era of some refinement of psychiatric interviewing, this classical teaching method seems not only useful but, for some purposes, preferable to the use of more modern technological innovations.

FREDERICK J. ZIEGLER, M.D.

*The Johns Hopkins Hospital  
Baltimore, Maryland*



## NEW BOOKS

KENNETH E. PENROD

Book Review Editor

### Book Reviews

**Anatomist at Large, an Autobiography and Selected Essays.** By GEORGE W. CORNER. New York: Basic Books, 1958. 215 pp. \$4.00.

All who teach medical students will delight in reading this brief, informal autobiography by one of America's outstanding medical educators and statesmen. It will be a profitable experience as well. George Washington Corner, III, attempts to explain his mental inheritance by giving us a thumbnail sketch of his immediate forebears who all lived in Baltimore. The explanation aids one in understanding this natural phenomenon.

In view of the fact that most of us are counselors to medical students seeking guidance other than the prescribed courses in the curriculum, the autobiography and essays will throw much light on techniques involved in human relationships, for Professor Corner's wide experiences, both personal and professional, are clearly portrayed. This personal narrative so closely associated with the renaissance of American medical education is another account of a section of the Johns Hopkins adventure and its ferment throughout our great nation. Prof. Corner was not only one of the Hopkins students but a distinguished member of its faculty. Interwoven in this sketch are glimpses of other American scientists whose contributions to medical knowledge illuminate the fields of gynecology and physiology of reproduction. Prof. Corner summarized the satisfactions gained in scientific pursuits as follows: "I am only trying to say that the scientist, being human, cannot have the cold and impersonal character that is ascribed to him. He is, in fact, generally a happy person, for he always has something to do. His work, moreover, sometimes brings satisfaction of a kind known by few others, when after toil and puzzlement the veil that nature holds before him suddenly parts and, like those who once stood silent upon a peak in Darien, he at his

microscope or at the laboratory bench realized that what lies before him no other man has ever seen. Such moments come not only to a Newton or a Darwin, for even a small finding, one little flash of illumination, is enough to bring the joy of discovery that is the scientist's best reward."

The essays touch upon three things: philosophy of biological subjects, history, and statesmanship. In the hands of Prof. Corner both ancient and modern medical discoveries become exciting, whether he deals with the most famous remedies of old medicine or the modern discovery of a new hormone. His treatise on "Anatomists in Search of the Soul" takes you through the exciting highlights of this quest. "A Glimpse of Incomprehensibles" presents us with a saner view of the new materialism.

Prof. Corner's immediate and direct contact with major issues of American higher education, especially medical, permits him to share his views with us in these essays, especially "Science and Education." Good humor and hard down-to-earth treatment of problems abound throughout the book.

KENNETH E. PENROD

PAUL G. ROOPE

**Readings in Medical Care.** Edited by the Committee on Medical Care Teaching of the Association of Teachers of Preventive Medicine. Chapel Hill: University of North Carolina Press, 1958. 694 pp., with an author and subject index.

This book was designed mainly as a reference for teachers and students of the health sciences, but it has a wealth of important and factual information for anyone interested in medical care, particularly physicians.

The practicing physician today should be well informed and have a broad understanding of the economic and social forces dynamically influencing the patterns of medical care. *Readings in Medical Care* provides sufficient infor-



mation of what has been happening and why it has been happening in almost every area and facet of the rapidly changing medical care programs. With this knowledge of the history of the development of our present medical programs, the medical profession would have the background necessary to intelligently plan for and meet the continuing changing and developing medical care problems of the future. Dr. Willard C. Rappleye states in his article "The Physician in Modern Society" rather concisely and clearly the need for the professions to be informed and above all to participate in planning for the future:

"The organization and administration of health and medical services must of necessity avoid the proposals of extremists who, on the one hand, advocate complete governmental control and management or, on the other, hold vigorously to defense of vested interests and the status quo. It is often difficult to steer a course in the middle of the road, particularly because that requires a high order of judgment and courage. Our progress must be by evolution, but it also must be progress."

The book is divided into the following thirteen chapter headings: Problems in Medical Care, The National Health Picture, Adequacy of Medical Care, The Costs of Medical Care, The Medical Care Team, Hospitals, Co-ordination in Health & Medical Service, Care of Long-term Illness, Rural Medical Care, Public Medical Care, Medical Care in Industry, Med-

ical Care Insurance, and Principles and Proposals.

Each chapter has from five to fifteen selections from books, monographs, and articles. At the end of each chapter is a recommended list of other important references for further readings from books, monographs, and pamphlets published before 1956.

While the book has a loose continuity, each article and chapter can stand somewhat by itself. Readers interested only in special areas of the field may explore them by selecting specific chapters and articles. The Committee and editorial staff have done an excellent job of selection. For example, in the section which discusses whether there is a shortage of physicians, the editors have attempted to give both sides of the picture. This is true throughout the book—where a subject might tend to be controversial, a good selection of "for" and "against" articles is included.

The Committee and the editorial team are to be commended for providing the health professions with a sound and realistic document for their assistance in finding solutions to the problems of medical care. It would be hoped that the Committee would be able to prepare a volume on foreign medical care facilities and programs.

This book is a must for those who are teaching in the area of medical care and should be in the hands of all those interested in the American medical care problem.

LEE POWERS, M.D.

## Abstracts

**Bacterial and Mycotic Infections of Man.** Edited by RENE J. DUBOS, with 37 contributors. 3d ed. Philadelphia: J. B. Lippincott Co., 1958. 772 pp., with 116 illustrations. \$8.50.

The present volume does not differ in organization or in point of view from the 1st and 2d editions of this book. However, while the structure of the book has remained unchanged, the text has been almost completely rewritten. The size of the book has been held down by the elimination of some of the bibliographic references contained in the first two editions. As was true with the first two editions, this volume was designed to convey to the medical student—and it is

hoped by the authors, the practitioner of medicine—some knowledge of the bacteria, actinomycetes, and molds pathogenic for man, as well as the phenomena which characterize the infectious processes.

**Infectious Diseases of Children.** By SAUL KRUGMAN and ROBERT WARD. St. Louis: C. V. Mosby Co., 1958. 326 pp. \$10.00.

The purpose of this book is to provide a concise and handy description of certain common infectious diseases of children. It is written primarily for pediatricians, general practitioners, and medical students who deal with children. The authors are aware of the



effect of age on the severity of the so-called "children's diseases" and accordingly have included pertinent references related to this subject. Whereas striking changes have occurred in the picture of bacterial infections in the last two decades, little change has taken place in the incidence of the common viral infections. Many of these infections present serious problems to the physician. The significant advances in the control and treatment of bacterial infections have conferred on the physician a greater responsibility to make an early accurate diagnosis followed by appropriate anti-microbial therapy. Consequently the emphasis is on the practical clinical aspects of infectious diseases—symptoms and signs, recognition and management. A chapter dealing with problems of staphylococcal infections, particularly in hospitals, has been included.

**A Bibliography of Internal Medicine: Communicable Diseases.** By ARTHUR L. BLOOMFIELD. Chicago: University of Chicago Press, 1958. 537 pp. \$10.00.

It is the author's contention that all too little attention is paid to the past history of medical knowledge. Furthermore, he believes that some understanding of the development of ideas is essential for critical comprehension of the subject or a disease. For this purpose, the present volume has been compiled. Centered around 31 disease entities, the author has produced a bibliography with translations and comments covering the literature of the 19th and 20th centuries. In order to keep the mass of material within bounds, he has tried to include only those references of fundamental importance. Therefore, the references are selected. He has made his own translations from the French and German articles and has appended abstracts containing the substance of the material.

**Diagnostic Anatomy.** By WESTON D. GARDNER. St. Louis: C. V. Mosby Co., 1958. 360 pp. \$10.00.

This book has been written for the physician who contends daily with the morpho-

logic features of the human body as he examines his patient. It is the author's feeling that many books have been written with the aim of making the anatomic basis of surgery more clear and of more precisely defined variational concepts, but the developing student, the general physician, and the internist have been left largely to their own devices. The author, himself a former practitioner, has attempted to produce a correlative approach to certain aspects of regional gross and topographic anatomy, based upon the techniques, sequence, and problems faced by the physician in the physical examination. It is his hope that the book will be helpful to the student and practitioner who wishes to re-appoint himself with the anatomic features of the body which he examines. It has been limited to this objective, and some aspects of anatomy have been omitted if it was felt that they belong in the realms of surgical technique or pathologic findings. The terminology used in the book is more in accord with that familiar to the everyday practice of medicine rather than the classic anatomic terminology. It was also felt that the readers of this book would not have time to investigate extensive references to the literature, and for this reason the references are few, and the attention of the reader is directed to a few standard texts or monographs at the end of each chapter.

**Introduction to Urology.** By FRANK C. HAMM and SIDNEY R. WEINBERG. Department of Surgery, University of the State of New York, Downstate Medical Center, Brooklyn. 286 pp.

This lithograph monograph introduces the problems of urologic disease to the medical student. Procedures and techniques for the resident physician are included. The material can also be used by graduate physicians as a means of ready reference. Many of the disorders discussed are in that group termed degenerative diseases, which are primarily diseases of the older age group, an ever-increasing part of our population. The authors make no effort to present instruc-



tion in specialized surgical techniques. The principles of management elaborated in this volume are those generally accepted, and little controversial material has been included. Bibliographical references have been included with each of the nineteen chapters.

**Clinical Endocrinology.** By KARL E. PASCHKIS, ABRAHAM E. RAKOFF, and ABRAHAM CANTAROW. 2d ed. New York: Paul B. Hoeber, Inc., 1958. 880 pp., with 274 illustrations. \$18.00.

The 1st edition of this book appeared in 1954 as an outgrowth of the conviction of the authors that clinical endocrine disorders can be understood fully only when seen as problems in pathologic physiology. The experiences and interest of the authors in physiology, clinical endocrinology, and biochemistry are reflected in this text. This integrated approach reflects the experience of the authors in presenting the subject to undergraduate and graduate students and practitioners over many years. The second edition of this book results from the rapid expansion of new knowledge in this field over the last 4 years. A rather extensive revision of virtually all sections with complete rewriting of certain chapters was necessary. Some new material is presented. No significant changes have been made in the organization of the text or in the manner of presentation, except for the inclusion of brief comments on the involvement of endocrine glands and the therapeutic use of hormones in "non-endocrine" disorders.

**Bailey's Textbook of Histology.** Revised by WILFRED M. COPENHAVER and DOROTHY D. JOHNSON. 14th ed. Baltimore: Williams & Wilkins Co., 1958. 599 pp. \$11.00.

Great advances have been made in our knowledge of microscopic structure in recent years based on improved techniques in electron microscopy and histochemistry and in further progress in cell physiology as studied by tissue culture. Advances in these fields make it imperative to correct previous

misinterpretations of structure. In the present revision, a definite effort has been made to limit the text to the needs of first-year students in histology rather than to produce a source book for teachers and specialists. Likewise, the references at the end of each chapter have been restricted in number. They have been chosen not primarily from the point of view of priority of discovery, but because they contain other important references. An increased emphasis has been placed on the correlation of structure and function, on the physiological significance of structure.

**Callander's Surgical Anatomy.** By BARRY J. ANSON and WALTER G. MADDOCK. 4th ed. Philadelphia: W. B. Saunders Co., 1958. 1157 pp., with 1047 illustrations. \$21.00.

In this edition the authors have retained the fundamental structure of the previous edition while modifying the constituent elements wherever amplified knowledge of structure or improved technical procedure called for closer evaluation of present-day use of their book. Again the rationale, rather than its detailed steps, of surgery has been stressed. A number of prominent surgeons have contributed generously to the revision of this 4th edition.

**A Method of Anatomy.** By J. C. BOILEAU GRANT. 6th ed. Baltimore: Williams & Wilkins Co., 1958. 833 pp. \$11.00.

In this edition the text has been revised throughout. New material has been added, particularly on matters of clinical importance, such as the lubrication of joints, the neuro-vascular hila of muscles, electromyography, the mechanics of the foot, the segments of the liver, the lymphatics, the eruption of the teeth, and recent information on the fusion times of epiphysis. Numerous deletions, both long and short, have also been made. Much repetition has been eliminated. Thirty-four new illustrations have been added. The new international anatomical nomenclature replaces the Birmingham nomenclature of previous editions, but



where the new and old terms differ substantially from each other, the supplanted term is given in brackets. This is done in order that the students of today and tomorrow may not be at a loss to understand the students of yesterday and their clinical teachers brought up on the Birmingham nomenclature.

**Obstetrical Practice.** By ALFRED C. BECK and ALEXANDER H. ROSENTHAL. 7th ed. Baltimore: Williams & Wilkins Co., 1958. 1069 pp. \$14.00.

In the light of the newer evidence showing a vitally active role of the placenta, the chapters dealing with the development, structure, and physiology of this organ have been rewritten. Likewise, the chapters on the management of pregnancy, the clinical course of labor, and the management of labor and the puerperium have been thoroughly revised. In view of the universally bad fetal results which follow prolapse of the umbilical cord, the chapter on cord prolapse has been entirely rewritten. The chapter on multiple pregnancy has also been completely rewritten. New illustrations have been made to show the types of placentas and membranes that are found in monozygotic and dizygotic twins. The material on hydatidiform mole and choriocarcinoma has been rewritten, and a new section on chorioadenoma destruens has been added to the group of neoplastic changes in the chorion. As a result of the increasingly prominent place that is being given to perinatal mortality in most recent obstetric clinics, the previously meager discussion of umbilical cord anomalies has been greatly augmented. Finally, the chapter on retained and adherent placenta has been brought up to date both by the elimination of references to the Crede procedure and by the more frequent recommendation of manual removal of the placenta than was customary before the introduction of antibiotics reduced the dangers which formerly accompanied interuterine manipulations made during and immediately after the third stage of labor.

**Systemic Ophthalmology.** Edited by ARNOLD SORSBY, with 34 contributors. 2d ed. St. Louis: C. V. Mosby Co., 1958. 666 pp. \$25.00.

The first edition of this book, published in 1951, was based on the fundamental concept that the general aspects of eye disease carry surgical, obstetric, metabolic, dermatological, and other implications no less than those of a purely medical character. Thus the comprehensive term "Systemic Ophthalmology" was used. The present edition, brought on by the advance in knowledge during the past 7 years, has been thoroughly revised and now incorporates entirely new chapters on subjects where advance has been particularly rapid. The older material has been comparably deleted such as not to seriously increase the size of the text.

**Physical Examination of the Surgical Patient.** By J. ENGLEBERT DUNPHY and THOMAS W. BOTSFORD. 2d ed. Philadelphia: W. B. Saunders Co., 1958. 344 pp.

The 1st edition of this text, published in 1953, was designed to focus attention on the methods and importance of eliciting physical science in surgical conditions. It was not meant to be a textbook of surgery nor a short-cut to surgical diagnosis. For the student, it was intended as a guide to the early acquisition of that astuteness and thoroughness so essential to the diagnosis of surgical disorders. For the practitioner, it was hoped it would prove a useful reference to refresh his mind in the appraisal of surgical lesions with which he may not be able to maintain complete familiarity. The second edition of this book has not changed from these objectives. It is written with the specific needs of student, house officer, and practitioner of medicine in mind. The new format of the 2d edition, it is hoped, will increase its usefulness for quick reference. New chapters have been added on "cancer detection" and "history taking" and a number of new notations have been made, especially in the chapters on the head and neck and peripheral vascular disorders.



**Artificial Limbs.** Edited by the Prosthetics Research Board of the National Academy of Science, National Research Council. Volumes 1-4, 1954-57. Available through National Academy of Sciences, National Research Council, 2101 Constitution Avenue, Washington 25, D.C.

Since 1954 the National Research Council Prosthetics Research Board has been publishing a review of current developments in artificial limbs three times per year in journal form. These are now available in bound volumes, beginning with volumes 1 and 2, 1954-55, in one cover and volumes 3 and 4, 1956-57, in one cover.

**A Graphic Review of Histology.** By ROBERT C. PATTERSON and FRANK N. MILLER. Washington, D.C.: The Sigma Press, 1958. V-125 pp.

This is a ready reference book for review purposes illustrating in color the normal and pathological aspects of most human tissues studied in regularly scheduled classes in medical and dental histology. The photographs have been taken directly from slide boxes used by medical students. This is a neat book, with a plastic ring type binding, which makes it readily usable in all laboratories. The major share of the tissues have been stained with H. and E. There are one or two iron hematoxylin, one Weigert, one osmic acid, and several silver stains. The series on tooth development is excellent, as well as on the adult tooth; however, no indication on the plates as to the stain.

Opposite each plate there appears a brief, but adequate statement concerning identifying histological features and the accompanying histopathological correlation. There is an index as well as a table of contents. There is a lack of illustrations on the connective tissues. Because of this selection, the book will be of considerable help to student as well as instructor.

**Textbook of Microbiology.** By KENNETH L. BURDON. 4th ed. New York: The Macmillan Company, 1958. 619 pp. \$5.75.

This is the first thorough revision of this book since the Third Edition was published in 1947. The present edition is planned to accurately recount the rapid advances in fundamental knowledge about viruses, fungi, and other microbes. Many sections of the text have been largely rewritten—especially those chapters dealing with bacterial morphology, physiology, genetics, and classification; hemotherapy and antibiotics; fungus and viral diseases. All references to the names or classification of bacteria or rickettsiae now conform to the new Seventh Edition of Bergey's *Manual of Determinative Bacteriology*, published by Williams and Wilkins Company, Baltimore, in October, 1957. In order to incorporate the significant new knowledge, certain topics have been given somewhat fuller treatment than in previous editions. The primary purpose of this book is not to offer technical training for future microbiologists, but rather to provide the basis for an understanding of the phenomena of microbic life and of host-microbe interrelationships. Sixteen new illustrations have been added, and a number of the older ones have been replaced by new and up-to-date figures of improved quality.

## Books Received

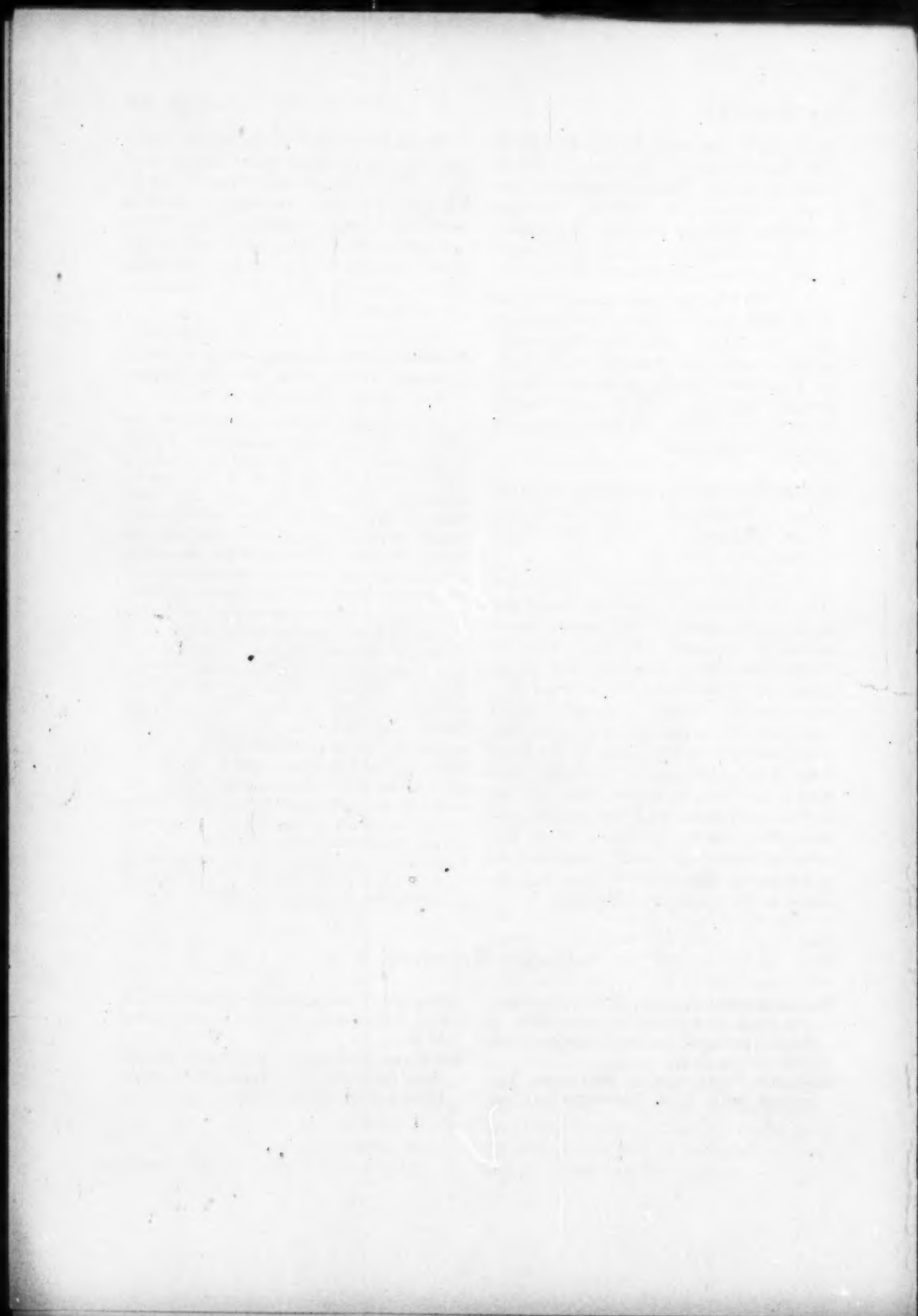
**Veterinary Protozoology.** By U. F. RICHARDSON and S. B. KENDALL. London: Oliver & Boyd (distributed by The Macmillan Co.), 1958. 260 pp. \$4.50.

**Hormone Production in Endocrine Tumours.** By G. E. W. WOLSTENHOLME and

MAEVE O'CONNOR. Boston: Little, Brown & Co., 1958. 351 pp., with cumulative index. 00.

**The Gang.** By HERBERT BLOCH and ARTHUR NIEDERHOFER. New York: Philosophical Library, 1958. 231 pp. \$6.00.







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## NEWS FROM THE MEDICAL SCHOOLS

### Albany

Doctors at 23 hospitals in New York State, Massachusetts, New Hampshire, and Vermont are now receiving postgraduate medical information via two-way radio broadcasts from six eastern medical schools.

Dr. FRANK M. WOOLSEY, JR., director of postgraduate education, announced that the college is expanding its radio network to take in more hospitals and stated that five eastern medical schools are joining with Albany in presenting programs. The schools are Yale, Vermont, Boston, Harvard, and Tufts. According to Dr. Woolsey, the doctors are kept well informed on the latest medical topics without having to travel long distances or arrange for someone to cover their practices. He estimated that the two-way radio conferences have saved doctors about 750,000 miles of travel, and to date, some 800 individual physicians have attended one or more of the conferences.

The college conferred the Second Annual Honorary Lecture Award on Dr. PAUL A. WEISS, professor and chairman of the department of developmental biology, Rockefeller Institute for Medical Research. Presentation ceremonies were held recently in the Huyck Auditorium.

Established in 1957, the award is granted to an individual who has distinguished himself by achievement and devotion in the fields of medicine, science and teaching. First recipient of the award was Dr. W. MANSFIELD CLARK of Johns Hopkins University.

### University of California (San Francisco)

Earl Warren, chief justice of the United States Supreme Court, was principal speaker at ceremonies held October 30, marking

the dedication of the Cardiovascular Research Institute at the university's medical center. Other participants in the dedication ceremonies included President CLARK KERR; Dr. JOHN B. DE C. M. SAUNDERS, dean of the school, and Dr. JULIUS H. COMROE, director of the Cardiovascular Research Institute.

The Institute, which occupies the 13th floor of the university's Herbert C. Moffitt Hospital, brings together faculty members from 13 departments of the school of medicine and more than 20 research fellows and trainees.

### Chicago Medical

The school marked the ten years of its accreditation as a medical college at a dinner meeting held November 25. Dr. JOHN J. SHEININ, president of the School, gave a progress report and described the future plans for the development of the medical school. The planning of a new research institute, the first of seven buildings to be erected on ten acres of ground in the heart of the West Side Medical Center, is now under way and construction is scheduled to begin this spring.

The school has announced an expansion of its current residency training program in psychiatry and neurology under a newly established grant of \$15,500 from the Public Health Service.

The program will utilize the facilities of Mount Sinai Hospital, the Illinois State Psychiatric Institute and the West Side VA Neuropsychiatric Hospital and Clinics. Dr. HARRY H. GARNER, professor and chairman of the department of psychiatry and neurology, is director of the program. Dr. MARVIN ZIPORYN, associate in psychiatry, has been appointed director of education.



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*Professor of Clinical Psychiatry, Medical School of  
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**First Edition**

**Published 1958**

This new book, which is about the psychoanalytic treatment of individual persons, should prove most interesting and instructive to all persons seeking an understanding of procedure and interpretation in psychoanalysis.

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**244 Pages**

**Representative Bibliography**

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Dr. WILLIAM S. KROGER, associate professor of obstetrics and gynecology, was elected president of The Academy of Psychosomatic Medicine at its recent annual meeting in New York City.

Dr. OTTO C. KOLUVEK and Dr. SAM C. UDELL have been elected to the board of trustees of the school. Dr. Koluvek is on the attending staff of MacNeal Memorial Hospital and Dr. Udell is chairman of the department of ophthalmology at Illinois Masonic Hospital.

#### University of Chicago

Dr. LOWELL T. COGGESHALL, dean of the division of biological sciences and immediate past president of the AAMC, has been appointed by President Eisenhower as U.S. alternate representative on the executive board of the World Health Organization.

Dr. ELEANOR H. HUMPHREYS retired September 30, after having been associated with the university for the past 35 years. Dr. Humphreys came to the university in 1923, attending Rush Medical College while serving as laboratory assistant in pathology in the new Albert Merritt Billings Hospital. At the time of her retirement, Dr. Humphreys was professor of pathology and head of the surgical pathological laboratory of the university medical center.

#### Cincinnati

The university's Institute of Industrial Health is offering graduate fellowships in industrial medicine. The Institute provides professional training for graduates of approved medical schools who have completed at least one year of internship. The three-year course of instruction, leading to a degree of Doctor of Science in Industrial Medicine, fulfills the requirements for certification in Occupational Medicine by the American Board of Preventive Medicine.

A one-year course is also offered to qualified applicants who may be candidates for the Master of Science degree.

Further information may be obtained by writing to the Secretary, Institute of Indus-

trial Health, College of Medicine, Cincinnati, Ohio.

#### Colorado

The Public Health Service has approved a grant of \$1,344,165 for construction of research facilities at the Medical Center. The funds are made available for new construction and remodeling in the Center's long-range building program. The funds will be used for development of research facilities in many areas of the new Medical Center, and are not for a specific building.

President QUIGG NEWTON and Dean ROBERT C. GLASER hailed the grant as an important step forward in development of the Medical Center's proposed \$17,500,000 expansion program, which envisions a new 405 bed hospital, modern medical and dental research facilities, outpatient clinics and other construction north of the present Denver campus.

Dr. RAYMOND R. LANIER, professor and head of the department of radiology, was a featured speaker at the Inter-American Congress of Radiology meeting at Lima, Peru, November 2-8. He discussed studies on the effects of various radiation beam qualities on human cells grown in tissue culture.

#### Cornell

Miss MURIEL R. CARBERY has been appointed dean of the Cornell University-New York Hospital School of Nursing, succeeding Miss VIRGINIA M. DUNBAR, who is retiring. Miss Carbery has been director of the nursing service of the New York Hospital since 1952, and will continue in this position.

#### Florida

Dr. RICHARD P. SCHMIDT, former assistant professor in the department of medicine at the University of Washington, has been appointed head of neurosurgery.

#### Georgetown

A Chilean physician, representing one of the youngest medical faculties in Latin-





Willson, Beecham, Forman, and Carrington

## OBSTETRICS AND GYNECOLOGY

*Now for the First Time a Textbook that Combines  
Obstetrics and Gynecology*

Answering a long-existent need for a textbook that combines obstetrics and gynecology, the recently published Willson-Beecham-Forman-Carrington book was specifically written as a textbook for combined courses in these subjects. Nonetheless, this book contains sufficient information for use as a text for separate courses in each area.

Describing widely accepted methods currently in use at the Temple University Medical Center, this new book contains basic information concerning the management of normal pregnancy and delivery and describes the development and recognition of complications and their management. Since the student is not ready for the information at this time, details of complicated diagnostic procedures and treatments and obstetric operations are not included.

You'll find the book provides the student with detailed discussions of methods for recognizing and treating common gynecologic disorders. However, descriptions of operative procedures and rare lesions are omitted. Emphasis is placed on diagnostic procedures and treatments which can be utilized in the office and the small hospital.

By combining obstetric and gynecologic information, the authors describe the life history of a woman and her various functions and ailments in a chronological order. By using this approach, material which is related is discussed together. For instance, puerperal infections and those unrelated to pregnancy are presented together.

While the new book contains much more material than does the usual synopsis, nonetheless it has considerably less than the all inclusive standard text. Most important, it provides the student with all the information he needs to practice good obstetrics and gynecology.

By J. ROBERT WILLSON, M.D., Professor and Head of the Department of Obstetrics and Gynecology; CLAYTON T. BEECHAM, M.D., Clinical Professor of Obstetrics and Gynecology; ISADOR FORMAN, M.D., Clinical Professor of Obstetrics and Gynecology; and ELSIE REID CARRINGTON, M.D., Assistant Professor of Obstetrics and Gynecology, all at Temple University School of Medicine and Temple University Medical Center. Just Published. 605 pages, 6 3/4" x 9 1/4", 267 illustrations. Price, \$10.75.

*Gladly Sent to Teachers for Consideration as Texts*

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America, is at Georgetown to study ways and means of expanding his institution's staff. He is Dr. RAMON ORTUZAR of Santiago, professor of medicine and chairman of the medical department at the Catholic University of Chile.

Here under a W. K. Kellogg Foundation grant, it is Dr. Ortuzar's aim to examine the ways in which clinical medicine is taught in selected medical centers and to study the relationship between clinical medicine and basic science. From Georgetown, he will go to Harvard, Johns Hopkins, Yale, Cornell, and Columbia.

#### **Hahnemann**

The National Institutes of Health has granted the college \$882,000 for the construction of a clinical research building.

According to WATSON MALONE III, president, the proposed new structure will provide 50,000 square feet of space exclusively for research by the departments of medicine, surgery, pathology, pediatrics, psychiatry, radiology, obstetrics and gynecology, and will more than double the current research facilities at Hahnemann.

#### **Harvard**

Dr. JOSHUA LEDERBERG, one of three American scientists to share the 1958 Nobel prize in medicine and physiology, delivered the second annual J. Howard Mueller Memorial Lecture at the medical school on November 13. Dr. Lederberg is professor of genetics at the University of Wisconsin. The J. Howard Mueller Memorial Lecture honors Dr. Mueller, who, at the time of his death in 1954, was Charles Wilder professor of bacteriology and immunology at Harvard.

#### **Illinois**

Dr. ARNOLD VERYL WOLF, former chief of the Renal Branch of the Cardiovascular Pulmonary Division of Walter Reed Army Institute of Research at Washington, D.C., has been appointed head of the department of physiology. He succeeds Dr. GEORGE E. WAKERLIN, who resigned last April to be-

come medical director of the American Heart Association.

The 9th Annual Conference on Pre-medical and Medical Education was held November 7, at the Chicago Professional Colleges of the university. Participants in the day-long conference, sponsored by the college of medicine, were college advisers and representatives of medical schools in Chicago. Main speaker was Dr. RICHARD H. YOUNG, dean of Northwestern's medical school.

#### **Marquette**

Dr. JOSEPH SHAIKEN, associate professor of clinical medicine, has been chosen president-elect of the American College of Gastroenterology at the Annual Meeting of the College held recently in New Orleans, La. He will assume the presidency at the Annual Meeting to be held in Los Angeles, Calif., in September 1959.

#### **Medical Evangelists**

Dr. BERRY CAMPBELL, professor of anatomy at Minnesota, will join the CME faculty of medicine January 1, 1959 as research professor of neurology. Dr. Campbell has also served on the faculties of the University of Oklahoma and the University of Tennessee medical schools. He will continue his investigations in multiple sclerosis and encephalitis.

The school of graduate studies announces two new programs leading to the master of science degree in clinical sciences. Now the resident at CME's hospitals may elect to follow a plan of formal instruction in surgery or internal medicine. In addition to the routine residency program, the resident will be given laboratory assignments and seminars, and will be required to present a thesis.


#### **Michigan**

Dr. WILLIAM D. ROBINSON, professor of internal medicine, has been appointed chairman of the department of internal medicine. He succeeds Dr. CYRUS C. STURGIS, who re-



## Textbooks for second semester classes . . .

- Adams: PHYSICAL DIAGNOSIS*, 14th ed.  
850 pp., 428 figs., 1958.....\$12.00
- Appleton et al.: SURFACE AND RADIOLOGICAL ANATOMY*, 4th ed.  
About 340 pp., 390 figs., 1958.....\$9.50
- Beck & Rosenthal: OBSTETRICAL PRACTICE*, 7th ed.  
1127 pp., 956 figs., 1958.....\$14.00
- Best & Taylor: PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE*, 6th ed.  
1370 pp., 592 figs., 1955.....\$12.00
- Brewer: TEXTBOOK OF GYNECOLOGY*, 2nd ed.  
769 pp., 204 figs., 1958.....\$15.00
- Cobb: FOUNDATIONS OF NEUROPSYCHIATRY*, 6th ed.  
324 pp., 16 figs., 1958.....\$5.00
- Colby: ESSENTIAL UROLOGY*, 3rd ed.  
656 pp., 358 figs., 1956.....\$8.00
- Copenhaver & Johnson: BAILEY'S TEXTBOOK OF HISTOLOGY*, 14th ed.  
800 pp., 500 figs., 1958.....\$11.00
- Grant: A METHOD OF ANATOMY*, 6th ed.  
863 pp., 862 figs., 1958.....\$11.00
- Krantz & Carr: PHARMACOLOGIC PRINCIPLES OF MEDICAL PRACTICE*, 4th ed.  
1328 pp., 99 figs., 1958.....\$14.00
- Mercer: ORTHOPEDIC SURGERY*, 5th ed.  
1200 pp., 450 figs., 1958.....Prob. \$11.00
- Miller: TEXTBOOK OF CLINICAL PATHOLOGY*, 5th ed.  
1238 pp., 203 figs., 44 pls. (34 col.), 1955.....\$11.00
- Miller et al.: HUMAN PARTURITION Normal and Abnormal Labor*  
258 pp., 67 figs., 1958.....\$7.50
- Novak & Novak: TEXTBOOK OF GYNECOLOGY*, 5th ed.  
850 pp., 543 figs., 1956.....\$11.00
- Rhodes & van Rooyen: TEXTBOOK OF VIROLOGY*, 3rd ed.  
659 pp., 81 figs., 1958.....\$10.00
- Walshe: DISEASES OF THE NERVOUS SYSTEM*, 9th ed.  
390 pp., 89 figs., 1958.....\$8.00
- The most recently revised dictionary in the field: *STEDMAN'S MEDICAL DICTIONARY*, 1702 pp., illustrated, 1958.....\$12.50



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Baltimore 2, Maryland



signed as chairman in February 1957 to devote full time to his practice. Dr. PAUL S. BARKER has served as acting chairman during the intervening period.

Dr. Robinson has served as consultant to Rackham Arthritis Research Unit, and the Veterans Administration and was responsible for the teaching and residency training program in the medical outpatient department of the school. He has been a member of the faculty since 1944.

#### Mississippi

Medical center officials added three professors to the teaching staff this fall when they appointed Dr. CHARLES L. DODGEN as associate professor of biochemistry; Dr. BERWIND KAUFMAN, associate professor of physiology, and Dr. EMMETT J. JOHNSON, assistant professor of microbiology.

Dr. Dodgen was formerly on the staff at State University of New York, Downstate Medical Center. A former science teacher on the University of Mississippi campus, Dr. Kaufman had been in practice in Kentucky before returning to the university. Dr. Johnson has just completed a year's postdoctoral research in bacterial physiology as a Markle Fellow at Stanford.

#### Missouri

Dr. ROSCOE L. PULLEN, dean and medical director of the University Hospital, has returned from San Juan, Puerto Rico, where he was invited to serve as a consultant in the planning of a new medical sciences building for the University of Puerto Rico School of Medicine.

Dr. Pullen has also been asked by the Arizona State officials to serve as consultant in the building of a new medical school in that state.

#### New York University

The department of dermatology and syphilology announced that the eighth annual Sigmund Pollitzer Lecture will be given by Dr. AARON B. LERNER on Tuesday evening, January 20, 1959 in the auditorium

of Alumni Hall, 550 First Avenue, New York City. Dr. Lerner is professor of dermatology at Yale University School of Medicine.

#### North Carolina

Dr. ROBERT A. ROSS, professor of obstetrics and gynecology, has been promoted to rear admiral in the Navy Medical Corps. He was a member of the Duke faculty for 22 years before joining the faculty at North Carolina six years ago. Dr. Ross currently is the commandant's representative at the University of North Carolina for the Sixth Naval District.

#### Northwestern

The school held its Third International Conference on Nutrition and Metabolism December 10, on the Chicago campus. Dr. RICHARD H. YOUNG, dean, served as chairman with Dr. TOM D. SPIES as conference coordinator. Dr. Spies is professor of nutrition and metabolism and scientific director of the Nutrition Clinic, Hillman Hospital, Birmingham, Ala.

Reports on the latest developments in the field of nutrition and metabolism were presented.

#### Pennsylvania

Dr. I. S. RAVDIN, vice president for medical development and John Rhea Barton Professor of Surgery, has been elected to the chairmanship of the Pennsylvania Plan to Develop Scientists in Medical Research. Dr. Ravdin succeeds Dr. NORMAN H. TOPPING, former vice-president of the university who was appointed president of the University of Southern California in August.

As the Pennsylvania Plan completes its first year of active operation, three medical graduates, one dental graduate and one veterinary graduate are being supported while they train for careers of research and teaching in the basic medical sciences.

At ceremonies held November 18, in Albuquerque, New Mexico, Dr. Ravdin was presented the first annual Lovelace Founda-





## WALKING THE WARDS IN 18th CENTURY LONDON

"I devoted my time incessantly to the Hospital, and the lectures which London afforded. As a small gratuity admitted me to see the books of the physicians, and to accompany them through the wards, I embraced as many opportunities as I possibly could to avail myself of these advantages. In the morning, early, before any attendance was given, I usually visited many select patients, wrote out the symptoms, and afterwards examined the prescriptions of the

physicians on some particular cases. I compared the writings and practice of authors, and by degrees I acquired some precision in anticipating both the practice and the remarks of the faculty. If I thought myself much at a loss, I repeated my visits to the Hospital in the afternoon, and this not only confirmed the little knowledge I had acquired, but likewise gave me a frankness and ease of demeanour at the bedside."

—DR. J. C. LETTSOM (1744-1815) on his student days at St. Thomas's.



One of a series presented by

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tion Award. He was chosen to receive the award as "the most dynamic figure in American medicine today" according to Dr. Burgess L. Gordon, the Foundation's executive secretary.

The award will go each year to the nation's most outstanding medical figure as selected by the Foundation's board of directors.

#### **Pennsylvania Graduate School**

An international medical research group has been organized by alumni of the Graduate School of Medicine to be known as the "Bockus International Society of Gastroenterology." The group will be made up of alumni of the graduate program in gastroenterology which is headed by Dr. HENRY L. BOCKUS, chairman of the department of internal medicine. Emphasis will be placed on the study of geographical differences in behavior patterns and epidemiology of many diseases in different parts of the world.

Establishment of the new research group was accomplished under the impetus of Dr. FIGUEIREDO MENDES, a gastroenterologist in Rio de Janeiro, Brazil.

#### **Pittsburgh**

Following the work on the polio vaccine and the studies on alcoholism, the university is extending its activities into the comparatively unexplored field of health and hospital jurisprudence by establishing a Health Law Center. Functioning within the Graduate School of Public Health, the new center is an outgrowth of a two-year hospital law research study made possible by a \$234,528 grant from the National Institutes of Health.

Director of the new center is JOHN F. HORTY, JR., an attorney and associate research professor of health law, who has participated in the hospital law study since its inception in September, 1956.

Main task of the new center, according to Mr. Horthy, is to publish the results of the two year, 48 state, study of hospital law. He stated the findings would be presented

in two volumes—one for hospital administrators and the other for hospital attorneys. Publication is scheduled for February, 1959.

Dr. MILTON L. MCCALL, currently on the staff of Louisiana State University School of Medicine, has been appointed medical director of Elizabeth Steel Magee Hospital and chairman of the department of obstetrics and gynecology at the school of medicine. The joint appointment becomes effective in July, 1959.

#### **Saint Louis**

Dr. RENE WEGRIA addressed members of the St. Louis Medical Society at a reception held in his honor recently. Dr. Wegria is professor of internal medicine and director of the department. Formerly associated with the Presbyterian Hospital and Columbia University College of Physicians and Surgeons, he is also physician-in-chief of the St. Mary's Group of Hospitals.

A \$225,690 research training grant in general microbiology and virology has been awarded to the department of microbiology by the National Institutes of Health. The new training program will be under the direction of Dr. R. WALTER SCHLESINGER, professor of microbiology and director of the department, and Dr. EDWIN L. MINARD, associate professor of microbiology. Purpose of the grant is to provide young scientists, who have earned Ph.D. degrees in other sciences, with an opportunity to broaden their range of training and experience along lines which are being pursued in the department.

The grant also provides for improvement of teaching and research facilities and for added personnel and equipment in the school's microbiology laboratories.

#### **Stanford**

Dr. RODNEY R. BEARD, professor and head of the department of preventive medicine, was elected president of the Association of Teachers of Preventive Medicine. The Association, comprised of more than



250 specialists in this field teaching at medical schools throughout the U.S. and Canada, chose Dr. Beard at its national meeting held in St. Louis recently.

#### **S.U.N.Y. Brooklyn**

Three new faculty appointments have been announced by Dr. ROBERT A. MOORE, president.

Dr. HERBERT ELIAS KLARMAN, associate director of the Hospital Council of Greater New York, has been named clinical associate professor in the department of environmental medicine and community health.

Appointed to the post of assistant professor of medicine is Dr. YUSUF ZIYA YUCEOGLU, who is an associate in the cardiopulmonary laboratory at Maimonides Hospital, Brooklyn, one of the medical center's affiliated institutions.

Dr. DANIEL J. NATHAN has been appointed clinical assistant professor of medicine. Dr. Nathan holds appointments at several hospitals in Long Island and is assistant to the director of medicine and medical education at the Beth-El Hospital in Brooklyn.

#### **S.U.N.Y. Syracuse**

A conference for advisers to premedical students in approximately 40 colleges and universities took place November 7-8 at the university's medical center. The conference was one of a series of special events held as part of the Upstate Medical Center's dedication year. The purposes of the meeting were to consider problems of advising, selecting and educating future physicians and to acquaint the advisers with the center's new basic science facilities which were dedicated October 21.

Dr. DAVIS G. JOHNSON, assistant dean and chairman of the admissions committee, served as chairman of the conference.

#### **Vermont**

Dr. GEORGE A. WOLF, dean, has returned from Iran where he served as medical education consultant to the University of Teheran

Medical School under the auspices of the International Cooperation Administration. His study and report requested by the University of Teheran were concerned primarily with the curriculum of the medical school.

Dr. WILHELM RAAB, professor of experimental medicine, returned to the school after a year of research work in the Medizinische Klinik der Universit t Innsbruck, Austria. His work was a complementary part of his investigative program in preventive clinical cardiology.

Dr. JOHN F. DALY, professor of dermatology and chairman of the division, was recently elected vice-president of the Canadian Dermatological Association. According to the school, this is the first time anyone from the United States has been elected an officer of the Canadian Association.

#### **Washington University (St. Louis)**

Groundbreaking ceremonies for the new David P. Wohl, Jr. Memorial-Washington University Clinics were held November 18. Construction will begin immediately on the twelve-story structure with completion planned within two years. Five floors will be used for relocation of the present Washington University Clinics. A donation of \$2 million from the Wohl Foundation and Mr. and Mrs. David P. Wohl constitutes a major portion of construction funds.

#### **University of Washington**

The Governor of Washington has appointed Dr. JOAN K. JACKSON, department of psychiatry, to the Advisory Board of a pilot outpatient clinic for alcoholics to be opened in Seattle. Dr. Jackson recently participated in the Governor's Conference on Alcoholism in Tacoma, Wash.

#### **Wayne State**

Dr. JOSEPH J. PFIFFNER has been appointed professor of physiology and pharmacology. Dr. Pfiffner, a biochemist, has been associated with Parke, Davis & Co. for the past 21 years.



**Wisconsin**

A Swedish scientist is the first Fellow to visit the University of Wisconsin Medical Center under the new Public Health Service post-doctoral fellowship program. This program provides for the award of a limited number of fellowships to qualified scientists from outside the United States to work in medical laboratories in this country. Dr. C. N. deVERDIER has joined the staff of the McArdle Laboratories where he will work under the direction of Dr. VAN POTTER.

**Yale**

Dr. DENIS M. ABELSON has been appointed assistant professor of medicine. Dr. Abelson will be coming to Yale from the

Postgraduate Medical School of London, where he was senior registrar and medical tutor. He was previously at Yale in 1954 and 1955 as a research fellow in the department of physiology and as a research assistant in the department of medicine.

Dr. DAVID SELIGSON, former associate professor of clinical chemistry in medicine at the University of Pennsylvania, has been appointed director of laboratories at Grace-New Haven Community Hospital and associate professor of medicine in the school of medicine. He will also be responsible for directing and coordinating the activities of numerous service laboratories of Grace-New Haven Hospital, together with his clinical and teaching responsibilities in the department of internal medicine.

## ITEMS OF CURRENT INTEREST

**National Foundation Offers New Program**

The National Foundation has launched a multi-million-dollar Health Scholarship Program for young Americans in an effort to increase skilled manpower in five of the health professions, it has been announced by its president, Basil O'Connor.

He explained that the program represents a "realistic approach" towards solving the lack of health personnel in the U.S. by reaching into the nation's schools to select and train students in five key health fields—medicine, medical social work, nursing, physical therapy, and occupational therapy.

Figures supplied by four of the professions included in the Health Scholarship Program revealed an immediate need for 6,500 more medical social workers, 70,000 more nurses, 7,000 more physical therapists, and 10,000 more occupational therapists. Authorities also estimate a drop from 132

doctors per 100,000 population to less than 128 per 100,000 in the next 15 years.

Summarizing the program aimed to help fill these needs, O'Connor pointed out that a minimum of 505 Health Scholarships will be offered each year to student citizens of the U.S. in each of the 49 states, the District of Columbia, Hawaii, and Puerto Rico. Each scholarship awardee will receive \$500 a year for four years providing that scholastic standards are maintained. The first scholarships are to be awarded before the end of the 1959 school year. Further information may be obtained by writing to the National Foundation, 800 Second Ave., New York 17, N.Y.

**Foreign Medical Graduates Tested**

Results of the first world-wide American Medical Qualification Examination held Sept. 23 in 30 U.S. examination centers and 30 foreign centers have been announced by



Dr. Dean F. Smiley, executive director, Educational Council for Foreign Medical Graduates. The foreign centers were established in Latin America, the Far East, the Middle East, and Europe.

Statistics reveal that of the 844 foreign-trained physicians taking the examination 418 passed and will receive the ECFMG Certificate. According to the Council, these physicians are certified as possessing medical knowledge reasonably equivalent to that expected of graduates of approved American and Canadian medical schools and as having satisfactory facility in the English language.

The examination results also indicate that 226 candidates came sufficiently close to passing, in spite of language difficulties, to earn temporary certificates which will qualify them to study not more than two years as interns or residents in U.S. hospitals approved for internship or residency training.

Those foreign-trained physicians who passed the exam and enter the U.S. on exchange visitor visas may participate in the National Intern Matching Program or apply directly to a hospital for an internship or residency, Dr. Smiley explained. He also pointed out that graduates entering the U.S. on immigrant visas may be admitted to licensing examinations in at least 16 states.

The American Medical Qualification Examinations for 1959 are scheduled for February 17 and September 22. To be admitted to these examinations the candidate is required to present, three months in advance, an application and credentials confirming that he has had 18 years or more of formal education, at least four of which have been in a recognized school of medicine.

#### **International College of Surgeons**

Nearly 100 surgeons from 19 states and three foreign countries, including instructors from 18 medical schools, will present the scientific program at the Southeastern Regional Meeting of the U.S. Section, International College of Surgeons, in Miami Beach, Fla., January 4-7.

Further information may be obtained from Dr. Harold O. Hallstrand, general chairman, 7210 Red Road, South Miami, Fla., or Dr. Ross T. McIntire, executive director, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois.

#### **Nobel Prize in Medicine**

The 1958 Nobel prize in medicine and physiology has been awarded to three American scientists for their work on problems of heredity. Half of the \$41,420 award went to Dr. Joshua Lederberg, 33, University of Wisconsin, and the other half to Drs. E. L. Tatum, 49, of New York's Rockefeller Institute and George Wells Beadle, 55, California Institute of Technology.

In awarding part of the medical prize to Dr. Lederberg, the committee said it was "for his discoveries concerning genetic recombination and the organization of the genetic material of bacteria." Lederberg, a native of Montclair, N.J. and a graduate of Columbia University, went to the University of Wisconsin in 1948. Last year he organized and became the chairman of a medical genetics department at the university. Next February he will leave Wisconsin to become chairman of a similar department at Stanford University.

#### **London Conference**

Three American medical educators presented papers recently at the first conference of the Association for the Study of Medical Education held at the Royal College of Physicians of London. The subject of the conference was "Experiment in Medical Education."

Presenting papers from the United States were Dr. Lester Evans of the Commonwealth Fund; Dr. T. Hale Ham, professor of medicine at Western Reserve University; and Dr. John Z. Bowers, dean of the University of Wisconsin Medical School, and editor of the *Journal of Medical Education*.

The chief aims of the Association include the exchange of information concerning medical education and the promotion of research. Its membership is comprised of 26



medical schools from the United Kingdom and northern Ireland.

#### **American Board of Nutrition**

The American Board of Nutrition will hold the next examinations for certification as a specialist in human nutrition during the week of April 12-18, 1959 in Atlantic City, New Jersey, according to a recent announcement.

Candidates who wish to be considered for these examinations should forward applications to the Secretary's office not later than March 1. Application forms may be obtained from the Secretary, Robert E. Shank, Department of Preventive Medicine, Washington University School of Medicine, Euclid and Kingshighway, St. Louis, Missouri.

#### **Joint Meeting in Pathology**

New developments in blood tests and blood transfusions, homicide investigation, and the use of radioisotopes and electron-microscopy as diagnostic aids were reported to over 1500 pathologists during a joint meeting of the College of American Pathologists and the American Society of Clinical Pathologists in Chicago recently.

The scientific sessions were the 12th Annual Meeting of the College of American Pathologists of which Dr. Charles P. Larson, Tacoma, Washington is the president and the 37th Annual Meeting of the American Society of Clinical Pathologists which is headed by Dr. Harry P. Smith, New York.

During the meeting, the Ward Burdick Award, given annually for highest achievement in pathology, was presented to Dr. Thomas B. Magath of the Mayo Clinic, Rochester, Minnesota. Dr. Magath's paper on "The Antigen of *Echinococcus*" was presented at the meeting.

Scientific and technical exhibits at the meeting depicted the latest developments and new findings in laboratory medicine.

#### **National Conference Planned**

Plans are currently being developed for a national conference on the health problems

of the aged to be held in the spring of 1959 under the sponsorship of the Joint Council for the Health Care of the Aged, according to an announcement by the Council.

The Joint Council was formed last April under the sponsorship of the American Dental Association, the American Hospital Association, the American Medical Association, and the American Nursing Home Association. It has among its main objectives identifying and analyzing the health needs of the aged, appraising available health resources for them, and fostering health education programs.

#### **MEND News**

Among the MEND activities for the coming year as announced by Capt. Bennett F. Avery, national coordinator, is an Army-sponsored symposium on "Infectious Disease Problems" at the Walter Reed Army Institute of Research, Washington, D.C., Jan. 19-21.

An all-day meeting of MEND coordinators in Chicago is scheduled for Feb. 7 immediately preceding the Congress on Medical Education and Licensure. A special breakfast meeting of deans and coordinators of schools joining the MEND Program on Jan. 1 is also scheduled on the same day.

#### **Markle Foundation**

Grants of over \$1,160,000 were announced in the annual report of the John and Mary R. Markle Foundation, covering the period July 1, 1957-June 30, 1958. The largest grant announced by John M. Russell, vice president and executive director, was \$750,000 appropriated to medical schools in the United States and Canada toward the support of 25 young faculty members selected by the fund as Scholars in Medical Science. During the last eleven years, 231 doctors in 74 medical schools have received help from appropriations totaling \$6,800,000, the report revealed.

The fund also appropriated \$150,000 to the Association of American Medical Colleges for general development of its program



and \$200,000 to Washington University School of Medicine, St. Louis, to train young teachers and research workers in its basic science program.

#### **Seminar on Medical Education**

Dr. Dean F. Smiley, executive director, Educational Council for Foreign Medical Graduates, will give a report on the council at a Seminar on Medical Education for the Non-University Hospitals of New England. The seminar is to be held January 9-10 by the Department of Medical Education at Beverly Hospital, Beverly, Mass.

#### **Public Health Service Grants**

Dr. Leroy E. Burney, Surgeon General of the Public Health Service, has announced approval of 98 grants, totaling \$13,168,307 to help institutions in 33 states build and equip additional health research facilities.

The grants are the second group of awards made possible through this year's appropriation of \$30 million to encourage further expansion of the Nation's health research facilities. Awarding of 58 grants totaling \$12,789,758 was announced at the end of the summer.

#### **New Scientific Director**

Appointment of Dr. Paul L. Day, former professor and head of the department of biochemistry, University of Arkansas School of Medicine, to the new position of Scientific Director of the U.S. Food and Drug Administration was announced by George P. Larrick, commissioner of Food and Drugs. Dr. Day also served as assistant dean of the Graduate School at Arkansas. He had been with the university for 31 years.

#### **Air Pollution Conference**

More than 70 air pollution specialists, civic leaders, and representatives of industrial and governmental agencies dealing with air pollution problems were on the program of the National Conference on Air Pollution held in Washington, November 18-20.

The Conference, called by Dr. Leroy E. Burney, was aimed at reviewing recent knowledge about the air pollution problem and recommending plans for dealing with it.

Dr. Burney opened the meeting with a status report to the nation, summarizing the progress that has been made since the enactment of the first Federal air pollution control legislation in 1955.



# PERSONNEL EXCHANGE

## Faculty Vacancies

**BIOCHEMIST:** Teaching and research, department of biochemistry, University of Alabama. Salary and rank depend upon educational background, teaching and research activities. Reply should include personal history, complete bibliography and photo. Address: Emmett B. Carmichael, Department of Biochemistry, Alabama Medical Center, Birmingham 3, Ala.

**OBSTETRICS and GYNECOLOGY:** Full-time Board eligible instructor for expanding Department Obstetrics and Gynecology in large midwestern university. Ample opportunity for research, teaching and clinical experience. Address: V-68.

**FELLOWSHIP IN CARDIOVASCULAR DISEASE:** Active participation in cardiac catheterization, cine-angiography, phonocardiography and experimental surgical laboratories. Should have completed internship. Possible later incorporation into surgical or medical residency. Apply to J. G. Mudd, M.D., St. Louis University Hospitals, 1325 S. Grand Blvd., St. Louis 4, Mo.

**HISTOLOGIST-EMBRYOLOGIST:** Junior appointment suitable for young doctorate, on medical faculty of Canadian medical school in Ontario. Facilities and time for research. Send curriculum vitae with application. Address: V-69.

**OPHTHALMOLOGIST:** Full-time assistant or associate professorship available in Eastern university medical school. Excellent opportunity for young man interested in academic career. Ample facilities, support and time for research. No private practice required. Address: V-70.

**SENIOR PATHOLOGIST:** Three hundred forty bed general teaching hospital and large diagnostic clinic, located in the East. All departments adequately staffed by full-time board certified M.D.'s and Ph.D.'s. Please give full summary of qualifications when answering. Apply to Administrator, Guthrie Clinic-Robert Packer Hospital, Sayre, Pa.

**ANESTHESIOLOGIST:** Board qualified, to be in charge of midwest university hospital service. Active general, tho-

racic, and cardiovascular surgical program. Ample research and teaching opportunity, attractive salary. Address: V-71.

**PEDIATRICIAN:** Full time clinical teacher for department with active student and house staff educational program. Person interested in clinical teaching as a career desired. Considerable small group teaching with less emphasis on lectures. Rank and salary dependent on qualifications. Address: V-72.

**VIROLOGIST and IMMUNOLOGIST:** Research position in medical school for young Ph.D. interested in immunology and virology to cooperate in a research program as well as to pursue individual interests. Salary depends upon qualifications and experience. Opportunity for teaching. Address: V-73.

**PSYCHIATRIC SOCIAL WORKERS:** Active participation in clinical teaching and in expanding program of services in the department of psychiatry and in pediatrics-psychiatry clinic in eastern university medical school. Excellent opportunity for individuals interested in social work contribution in medical education. Qualifications: Master's degree with psychiatric sequence, and for senior positions experience in supervision or teaching, preferably in psychiatric clinical setting. Send curriculum vitae with application. Address: V-74.

**PHYSIOLOGIST OR PHARMACOLOGIST:** Teaching and research position in medical school. N.Y.C. area. M.D. or Ph.D. required. Training in neurophysiology desired. Salary based on qualifications and experience. Address: V-75.

**PROFESSOR OF PREVENTIVE MEDICINE:** The University of Alberta invites applications for the position of professor and head of the department of preventive medicine in the faculty of medicine. Duties will include administration of the department, teaching of graduate and undergraduate students and a program of research. Salary will be \$10,000 per annum with consulting privileges. Interested applicants should send a complete curriculum vitae, names of three referees, and a recent photograph to the office of the Dean of Medicine, University of Alberta, Edmonton, Alberta.



To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Personnel Exchange, Journal of Medical Education, 2530 Ridge Avenue, Evanston, Illinois, not later than the 10th of the month which precedes the month in which the listings will appear.

### Personnel Available

**BIOCHEMIST:** Ph.D. 1951. Diversified research experience: physicochemistry and structure studies of proteins, kinetics and thermodynamics of enzymatic reactions, steroid and antibiotic isolation. Chromatography, physical techniques and electronics. Publications. Desires career position in either academic or research institute. Address: A-360.

**EPIDEMIOLOGIST:** Age 31. M.D., Washington Univ., 1951. M.P.H. Yale 1957 (Dr. P.H. Yale 1959). Desires affiliation with department of preventive medicine and responsibilities for cardiovascular disease, epidemiological research. Available September 1958. Address: A-361.

**INTERNIST-Psychiatric Orientation:** Certified, 36, desires to participate in practice of comprehensive medicine. Southwest location. Address: A-362.

**MICROBIOLOGIST:** Age 33, married. M.S. Bacteriology, 1949, Ph.D. Microbiology, 1958. Publications. Seven years teaching experience. Presently, research fellow in Eastern university. Desires teaching position with opportunity for research. Address: A-364.

**CLINICAL NEUROLOGIST:** British, M.A., M.D. (Cambridge, England), M.R.C.P. (London). Six years training on staff of National Hospital, Queen Square, London. Consultant neurologist on staff of London hospitals with long experience in research. Author of several books and numerous publications. Teaching experience and lecturing at American universities. Desires post in clinical neurology with facilities for teaching and research at professorial or assistant professorial level. Address: A-365.

**PSYCHIATRIC SOCIAL WORKER:** Female, single. Social Science and Administration Certificate, The London School of Economics and Political Science, England. Group work, B.S.W. University of Toronto, School of Social Work, Canada. Psychiatric Social Work, M.S.W. and Advanced Curriculum, Univ. of Pennsylvania. Experience in administration (United Nations). One year in residence in a State hospital followed by two years of clinical work in a university setting. Familiar with family centered teaching of medical students and residents. Desires faculty appointment. Available from September. Address: A-366.

**MICROBIOLOGIST:** Completing all requirements in September for the Ph.D. degree in Medical Parasitology, with a minor in Bacteriology and Immunology. Desires position in medical school teaching microbiology with opportunity for research. Address: A-367.

**PATHOLOGIST:** Age 44, certified C.P. and P.A. Academic background with extensive teaching experience. Particularly interested in medical and pediatric pathology. Organized and presently operating large department in university hospital. Desires to relocate in major city, east or west coast. Interested in combined teaching-service type practice in university or affiliated hospital. Address: A-368.

**EPIDEMIOLOGIST:** Age 30, M.D., M.P.H., requirements completed for Dr. P.H. Experience in obstetrics, student medicine, health department and chronic disease research. Desires teaching and research position in medical school department of public health and preventive medicine. Research in many fields; publications. Address: A-369.

**MICROBIOLOGIST:** Ph.D. Training, experience and publications in bacterial physiology (nucleic acid synthesis) and immunology or immuno-chemistry (antibody formation); several years teaching experience of medical students, nurses and technicians. Desires medical school or other academic position in teaching and/or research. Address: A-370.

**NUTRITIONIST-BIOCHEMIST:** Ph.D. Physician. Eight years experience teaching medical and graduate students. Associate professor in leading Eastern university. Numerous publications and membership in leading professional societies. Desires medical school position where there is available a combination of pre-clinical and clinical teaching with research facilities. Principal interest and experience in nutritional biochemistry and metabolism. Address: A-371.

**PEDIATRICIAN-Psychiatric Orientation:** Age 34, certified, F.A.A.P. Five years of private practice. Desires academic position with opportunities for research in psychosomatic aspects of pediatrics. Available July 1959. Address: A-373.

**ANATOMIST:** Age 35, married. Desires change of position with more time for research, in Canada or U.S. Medical graduate of London Medical School and the English Royal Colleges. Also a London Ph.D. Has had extensive medical experience and surgical training before becoming an anatomist. Since then lectureship in a London school and Senior Lectureship and Readership for six years in a British overseas university. Has had responsibility for teaching, planning and administration. Publications in journals. Address: A-374.

**ALLERGIST:** Board eligible in medicine. Desires career type opportunity in teaching and research. Has basic training in immunology. Will consider full-time, geographic full-time and half-time opportunities. Address: A-375.



**INTERNIST-BIOCHEMIST:** Ph.D., M.D. Age 42. Desires opportunity to do research with some clinical work, interested in rheumatic diseases, experienced teacher and investigator. Wide scientific background, including radioisotopes, publications. Address: A-376.

**ROTATING INTERN:** Age 26. Publication co-author. Desires faculty appointment in general surgery. Excellent references. Available July 1959. Address: A-377.

**PEDIATRICIAN:** Diplomate American Board of Pediatrics. Currently assistant professor; seeking a teaching position in a new location. Address: A-378.

**ORTHOPEDIC SURGEON:** British, age 36. F.R.C.S. (Edin.) Guy's Hospital Medical School, London. Publications, British Medical Journal. Eight years experience. Desires position in American medical school, preferably in orthopedic and traumatic surgery. Prepared to sit any necessary licensure or other examinations. Prefers settling in a maritime state with a warm climate. Address: A-379.

**MICROSCOPIC ANATOMIST:** M.D., male. Presently associate professor but desires change of locale to upper midwest or west for reasons of health. Seeking academic or research position in medical center or research laboratory. Address: A-380.

**PHYSIOLOGIST:** Ph.D., 1958, married, three children. Research in circulatory and respiratory physiology. Nine publications; teaching experience with medical and dental students. Desires teaching appointment in New England or New York State, with opportunity for research. Address: A-381.

**INTERNIST:** Certified; age 33. University trained; currently on faculty of medical school with experience in private practice and industrial medicine. Desires position in teaching hospital with opportunity for clinical investigation in cardio-vascular diseases. Address: A-382.

**INTERNIST:** Female, age 32; Mayo trained with an interest in hematology. Desires teaching position. Address: A-383.

**SURGEON:** Age 33, certified general, experience in thoracic and extra-corporeal techniques. University training. Seeks full-time academic position with opportunity for research. Address: A-384.

**BIOSTATISTICIAN:** Seeking position as member of team in basic medical research or as lecturer to medical, dental, pharmacy and graduate students. Address: A-385.

**PEDIATRICIAN:** MPH, desires teaching and/or research position with clinical emphasis. Address: A-386.

**ANATOMIST:** Position wanted in university anatomy department in U.S., by married male with family. British medical school degree in medicine, extensive clinical experience, and recent teaching and research experience in anatomy in England. Good references available. Available to attend interviews in the U.S. now. Address: A-387.

**OPHTHALMOLOGIST:** Research scientist in field of vision and ophthalmology desires teaching position in Canada or U.S. Long experience in field and extensive publications. Contracts pending and in hand. Address: A-388.

**OBSTETRICIAN-GYNECOLOGIST:** Foreign physician, age 30, three years residency in Obstetrics and gynecology in teaching hospitals of U.S.A., with good command of English, desires position as preceptor in Ob-Gyn., starting July 1959. Address: A-389.

**UROLOGIST:** Foreign physician, age 30, one year internship, three years in urology and one in urological research in teaching hospitals of U.S.A. desires position as preceptor in urology, starting July 1959. Good command of English. Address: A-390.

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## PUBLICATIONS

Useful information for both medical educators and students is published by the Association of American Medical Colleges. These publications may be obtained from the Association headquarters office, 2530 Ridge Avenue, Evanston, Ill.

### Booklets

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Fellowships, Funds and Prizes Available for Graduate Medical Work in the U.S. and Canada—4th edition, published 1954 (\$1.50).

By-Laws of the Association of American Medical Colleges (Revised 1955).

Minutes of the Proceedings of the Annual Meetings (1953-57 Minutes now available).

Public Understanding and Support of Medical Education.

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Report of the Conference on Preventive Medicine in Medical Schools (Report of the 1952 Institute).

The Teaching of Physiology, Biochemistry and Pharmacology (Report of the 1953 Institute).

The Teaching of Pathology, Microbiology, Immunology and Genetics (Report of the 1954 Institute).

The Teaching of Anatomy and Anthropology in Medical Education (Report of the 1955 Teaching Institute).

The Appraisal of Applicants to Medical School (Report of the 1956 Institute).

The Ecology of the Medical Student (Report of the 1957 Institute).

### Medical Audio-Visual Institute Publications

Film Catalog, Fall 1955 and Supplements.

Reprints from the Audiovisual News Section of the Journal of MEDICAL EDUCATION.

Films in Psychiatry, Psychology and Mental Health (available from the Health Education Council, 92 Belmont Drive, Livingston, N.J.).

Films in the Cardiovascular Diseases (Part I available from the American Heart Assn.), 44 E. 23rd St., New York 10, N.Y. (\$2.00).

Part II available from the Medical A-V Institute (\$2.00).

### Publications of Related Organizations

Hospitals Participating in the Matching Program 1958 (NIMP).

Results of the Matching Program 1958 (NIMP publication).

The Student and the Matching Program 1958 (NIMP publication).

Medical College Admission Test—Bulletin of Information 1958 (Educational Testing Service publication).

Psychiatry in Medical Education—1951 Conference (\$1.00).

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(The above can be obtained from: American Psychiatric Assn., 1785 Massachusetts Avenue, NW, Washington, D.C.).



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